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**University of Cape Town**



**THE DEVELOPMENTAL CONDITIONS OF CLASSROOM TEACHING AND  
LEARNING IN A PRIMARY SCHOOL IN ZIMBABWE.**

**A dissertation submitted to the School of Education in fulfillment of the**

**MASTER OF EDUCATION IN PSYCHOLOGY OF EDUCATION**

**SIBONOKUHLE NDLOVU: NDLSIB015**

**Faculty of the Humanities**

**2011**

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## **ABSTRACT**

The study investigates the prevailing conditions of schooling and classroom teaching and learning in southern Zimbabwe, using the Vygotskian socio-cultural theory to analyze the consequences that the breakdown of schooling and classroom teaching and learning had on learners' performance and cognitive development. Using a case study of a specific primary school in Gwanda district, the study has found that classroom teaching and learning in rural Zimbabwe was adversely affected by a conglomerate of contextual factors and worsened by the prevailing socio-economic and political problems resulting in contradictory classroom practices of teaching and learning. The analysis reveals the extent to which classroom teaching and learning has deteriorated and how the cultural practices of this specific tradition of schooling, impede on possibilities for meaningful learning activities in the classroom. The study contributes towards an understanding of the effects of the specific cultural conditions of schooling on learners' learning and cognitive development within the prevailing context of socio-economic and political instability in Zimbabwe and suggests ways in which teachers could organise pedagogy to assist their learners' learning and cognitive development.

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## **LIST OF ABBREVIATIONS**

ECD: Early Childhood Development

LOTL: Language of Teaching and Learning

GNU: Government of National Unity

QAR: Question- Answer-Reading

UNDP: United Nation Development Programme

UNICEF: United Nation Children's Education Fund

UNESCO: United Nations Educational, Scientific and Cultural Organisation

ZESA: Zimbabwe Electricity Supply Authority

ZPD: Zone of Proximal Development

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## CHAPTER ONE

### INTRODUCTION

#### 1. Outline of the research problem

The study examines the impact of classroom teaching and learning on learners' cognitive development. Classroom teaching and learning itself in turn is examined in the light of how it is influenced and shaped by the socio-cultural context within which it is taking place. The main focus of the study is specifically on classroom teaching and learning and its impact on the learners' learning and cognitive development and how this is influenced by the unique socio-cultural context of rural Zimbabwean schooling during the period of 2010. The study also seeks to understand the conditions of schooling in rural Zimbabwe during this specific period and what consequences they have for teaching and learning and, in turn on learners' learning and cognitive development.

The research problem involves the relationship between learning and cognitive development, elaborated in the Vygotskian socio-cultural framework, which argues that socio-cultural context has a significant impact on a child's cognitive development. More recent research is asking questions about and exploring the ways in which this relationship occurs and plays out in different socio-cultural contexts. Studies have shown that different socio-cultural contexts influence development differently in developmental psychology. Among others, studies carried out in rural South Africa by Moll (1994) and (Muthivhi, 2008) respectively have provided findings related to the specific relationship between learning and sociocultural contexts. These particular studies have inspired the present study carried out in Zimbabwe.

Zimbabwe presents a unique socio-cultural context because of the present socio-economic and socio-political crisis that the country is experiencing. Its socio-cultural context is unique for several reasons. Its literacy levels always came at the top in human development ranking

reports since the colonial period, at independence in 1980 and after, until the period of crisis that started around 2000. The quality of education has also been described as one of the best in the Southern Africa region (Mungazi, 1992, 1993; Chung, 2006). The United Nations Development Programme (UNDP, 2010) released statistics that Zimbabwe's literacy levels have increased from 85% to 90% even during the period of political and economic crisis. The present minister of education, David Coltart however contested these findings. He "scoffed"<sup>1</sup> at this ranking, claiming that it was flawed. The minister's contestation of the ranking was based on the survey carried out in Manicaland in the year 2010. The survey showed that most learners in Grade Five did not have Grade Five literacy levels but had Grade One and Two levels. The recent survey shows the ranking to be flawed, based also on the fact that learners had gone for long periods without textbooks and teachers (Dube, 2011). Given this controversial situation for literacy in Zimbabwe, it is of interest and importance to examine closely the processes of teaching and learning within this specific socio-cultural context, to determine their effects on learning and cognitive development on learners. In order to do this, and as a background to this study, it is necessary to explore the cultural, political and economic factors which have influenced, and continue to have an effect on these processes.

## **Culture and schooling**

Describing the Zimbabwean culture<sup>2</sup>, Owomoyela (2002) argued that the European presence in Zimbabwe since the colonial period caused profound changes in the way people live. The intention of the Europeans who colonised Zimbabwe was to mould the way of life of the indigenous peoples into a semblance of their own and in the process convert Africans to a more 'civilized' European way of life and belief as part of the colonising project. According

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<sup>1</sup> That the minister "scoffed" at the ranking means that he did not accept the ranking as reflecting the true literacy levels in Zimbabwe especially during the time that schooling was affected by the unfavourable political and economic conditions

<sup>2</sup> Culture from the perspective of developmental psychology, involves social organisation of society and what people are doing as an economic activity at a particular historical time

to Owomoyela this trend towards westernisation by Africans was in response to new lifestyles appropriate to their new economic status and new environments as they relocated to European controlled areas for employment (Owomoyela, 2002). From the developmental psychology perspective, when people engage in new economic ways of life, an accompanying development takes place in response to changes experienced. In essence, Zimbabwean culture up to the present has undergone some transformations due to Western influence. African traditions have become integrated with, and even subsumed by, Western ways of life. Thus, one could say that the 'Zimbabwean culture' is a complex mix of past and present cultural traditions and customs. Schooling in Zimbabwe is thus generally located within a context of both the past 'African' and the present 'Western' culture. It is thus of interest to examine the various ways in which such a socio-cultural context influences schooling.

The greater part of the country, made up of 65% of the population is rural. In rural areas, though culture has continued to change since the onset of colonisation, it could be described as more 'traditional' and 'African' than Western. This is because traditions, values and norms influenced by the culture from the past, are still practised and revered by the majority of the people (Child, 1968). This means that the greater part of rural schooling in Zimbabwe is generally located within a culture that is more traditional and rural than Western. Of particular interest to this study is the culture of the people of Gwanda district where the school which is the focus of study is located. The economic activity in rural Gwanda is subsistence farming and small scale animal rearing. Civil service jobs are in the teaching, police and soldiering sectors and account for a large proportion of remunerative employment.

The people of Gwanda comprise the Ndebele, the Sotho and the Venda speaking people. The dominant group is Ndebele who are historically a migrant group from Zululand in South Africa (Nyathi, 2005). Though there are other different languages spoken in Gwanda, the

dominant language is that spoken by the Ndebele group whose culture according to Nyathi (2005) has undergone some changes over the years since the colonial period.

Though there have been some changes in the economic activity in society, indigenous belief systems and traditional customs are still revered and practised by the majority of the Ndebele people. Customs relating to marriage, child birth, death and ancestral spirit worship still dominate the Ndebele culture. The Ndebele practise both Christianity and ancestral worship. According to Nyathi (2001), worship in the Ndebele religion meets certain community needs and helps overcome environmental difficulties. This means that the Ndebele are spiritual people. Understanding belief system as part of culture is important for this study as it may exert a significant influence on teaching and learning and on learners' learning and cognitive development.

Describing the Ndebele people of Zimbabwe, Child (1968, p. 57) argued that it is doubtful that Western education has greatly affected the basic character of a people who in the main retain many of their traditional customs, system of civil law and spiritual beliefs and worship as well as witchcraft. In essence, despite influence of Western culture, it could be argued that people in rural Zimbabwe retain most of those traditions and customs that are traditional and African.

Although child rearing practices are to a significant extent based on traditional practices, in some instances the influence of western culture is evident. In such instances children are brought up using both African and Western cultural traditions. Commenting on child rearing practices of the Ndebele people, Child (1968), echoed by Owomoyela (2002), describes the high value given to discipline by the Ndebele. They teach children to be obedient to those in authority such as parents and to respect their elders who include older children as well as adults in the community as well as teachers at school. This means that the value of respect of authority of elders by children is emphasised in the communities. This is of interest and

significance to the study because it provides an understanding of the social organisation in the broader context and thus an understanding of how the social organisation of the larger society influences schooling and consequently teaching and learning and development in learners.

Owomoyela (2002) argues that socialisation in Zimbabwean culture involves learning the rules and principles of 'proper behaviour' and understanding one's duties and obligations. This means that in the Ndebele socio-cultural context, 'proper behaviour' is valued and children learn to be responsible by knowing and doing that which they are obligated to do. To ensure that children behave well and do what they are obligated to do, corporal punishment is used as a way of enforcing discipline in children. Parents believe that practising this form of disciplining children forms part of African child-rearing practice and makes children perform well at school (Shumba, 2003a). Thus they endorse this form of punishment by teachers.

The Zimbabwean president also argued in favour of corporal punishment at the memorial service for his brother. He stated that corporal punishment is good for children and occasional corporal punishment is in line with the Zimbabwean culture (Africa news, 2007). This suggests that in the Zimbabwean culture corporal punishment is considered in cultural terms. Thus, we find the Constitution (1990) allowing for it and its administration in schools, controlled through policy (Education Act, 1990). With schooling influenced by such a culture, it is of interest to examine the impact such a sociocultural context has on teaching and learning and, consequently on learners' learning and development.

Authority and power in the Ndebele culture is to a significant extent expressed and based on a system of symbols. The eldest son in the family, in whom power and authority has been vested, carries a spear or a knobkerrie and stands in front of all other children at the funeral of the father (Nyathi, 2001; Nyathi, 2005). Holding of the spear is symbolic of power and authority that the elder son has inherited from his dead father. The elderly also carry a stick or knobkerrie as a symbol of power and authority in the community. The stick is also used as a

symbol in the Shona culture but in a different sense to that in the Ndebele culture. It is used to symbolise the belief in the authority of the dead and that they come back to life as spirits to watch over the living. A long stick is therefore used during the burial process known as *kuviga*. The stick is rested against the corpse in such a way that when the grave has been filled it remains visible above the ground. It is then pulled out after some months, leaving a hole so that the spirit may use the hole to emerge from the grave (Owomoyela, 2002, p.123). It is of interest therefore how in cultural terms a symbol of authority may be translated into schooling and how this impacts on teaching and learning and consequently on learners' learning and development.

### **Present conditions of schooling**

Ncube (2008) describes Zimbabwean crisis as “distinct”. This means that crisis in Zimbabwe is different from that experienced by other countries in Africa. According to Ncube (2008), “distinctness” is in that, Zimbabwean crisis results from the isolation by the West for redistribution of land that formerly belonged to white farmers, to black Zimbabweans. This has led to economic collapse and presents unusual conditions for schooling. These conditions are important to understand in terms of how they influence teaching and learning and learners' learning and development.

There have been numerous political disruptions from the year 2000 to 2008 that have disturbed schooling in Zimbabwe. Describing some of the experiences of political disturbances in schooling Stiff (2000, p. 402-404) states:

An armed gang of 60 Zanu PF thugs cordoned off the school and forced its closure. They rounded up five teachers, accused them of being MDC supporters and locked them in a room, before sending 900 children home...A secondary school teacher at Madziwa northeast of Harare was assaulted with iron bars and whips...War veterans arrived at Njangu primary and secondary schools in Chimanimani while classes were in session. They ordered the teachers and pupils, ranging in age six to about seventeen, to assemble outside. None of the pupils were of the voting age. They nevertheless subjected them to 're-education'; giving

their version of the history of Zimbabwe...At Maringambizi school veterans burnt the library...

The acts of political violence described above that occurred during the period 2000 to 2008, before the establishment of the Government of National Unity (GNU) in Zimbabwe, are reflections of the extent to which schooling was influenced and disrupted by the political events of the day. These acts of political violence in schooling have long-term implications for schooling and for learners and teachers in rural Zimbabwe. Commenting on disruptions of schooling by political events and actions, the minister of education, David Coltart, stated in an interview (Johnstone, 2011):

I was saying it in Parliament today, the education ministry in any country should be the least political of any because children should be allowed to develop their own thought processes. In the Zimbabwean situation, schools have been used as bases for militia and teachers have been threatened and that is abhorrent.

A situation where schools have been used as bases for militia and teachers have been threatened illustrates the extent of political disruptions in schooling. It is against this background that teaching and learning is examined, to understand the extent to which these conditions have had implications for teaching and learning and, consequently, for learners' learning and development.

Disturbances in schooling did not only involve disruptions of the kind described above. There were also disruptions involving labour strikes by civil servants including teachers. The latest teacher strike is reported by Latham (2011):

Many teachers in Zimbabwe are on strike and may be joined by other state employees after the government offered a 'paltry' wage increase, the daily news said, citing Ray Majongwe, the secretary general of the Progressive Teachers' Union of Zimbabwe. During such times schooling and teaching would be affected.

Up to the date of this study, this is the most recent report of several reports on a series of strikes that have been taking place in Zimbabwean schools, and most prevalently, between

2007 and 2010. At other times schools did not open according to the normal school calendar because teachers were demanding salary increases before they could start work (Kwenda, 2009).

The economic conditions have also been influenced negatively by the political conditions of the last ten years. According to Moyo and Yeres (2007) an indicator of economic crisis in Zimbabwe involved the informalisation of business activity for short term profiteering and the creation of parallel markets. An economic crisis results in the collapse of various sectors including those that are the backbone to the economy. According to Ncube (2008), the agricultural sector was the backbone of the economy of Zimbabwe. The economic collapse has seen this sector collapsing and food production crippled. Moyo (2004, p. 37) added that the decline in the agriculture sector has resulted in a shortage of foreign currency. In essence, the food shortage resulting from the decline in the agricultural sector and a shortage of currency has meant hunger and poverty for ordinary Zimbabweans especially those in rural areas. In addition to political disruption of schooling, this situation would also have negative impact on schooling. It is within this context that teaching and learning under such conditions is examined.

Due to a collapsed economy, poverty levels have risen, affecting communities and consequently teachers and learners in schools particularly those in rural areas. Zimbabwe ranked one hundred sixty nine out of the 169 countries in a poverty survey (UNDP, 2010). In 2010, the income poverty rate was around 62%, up from 42% in 1995 (UNDP, 2010). This shows that poverty levels have continued to rise in Zimbabwe and the continuous rise in poverty levels has negative implications for good nutrition (UNICEF, 2009, p. 11). Malnutrition is an indicator of poverty. In essence, continually rising poverty levels have affected food provision for ordinary Zimbabweans.

Using information on household assets, having good water, sanitation and fuel type as a wealth index, UNICEF (2009) released statistics that show that in a rural population of 35 602 in Zimbabwe, the lowest wealth quintile was 29,1 and the highest was 1,4. A wealth quintile involves a poverty indicator determined by using household income as assets, lifestyle or other indicators such as infant mortality below the age of five, or the percentage of rural people living below the poverty line. In Matabeleland South, where the school in which the study was conducted is located, the lowest wealth quintile was 33, 1 and the highest was 5.5 in a population of 3 073.

This survey shows a large concentration of families (29, 1 and 33, 1) in the lowest wealth quintile and only a few (1,4 and 5,5) in the highest wealth quintiles. In essence, the greater part of the population consists of those families who cannot afford what it takes to be considered as having a stable household according to the wealth index used. Only a very few families met the criteria used, hence the small percentages in the upper band of the wealth quintiles.

UNDP (2010, p. 42) describes Zimbabwe as the poorest country today, it is about 25% poorer than the poorest country in 1970 which then was also Zimbabwe. Now, according to Smits, Huisman & Webbink (2007), poverty significantly reduces the likelihood of children participating in school. The Education for All Global Report (2008) states that in nine out of twenty countries with household survey data, there is a strong negative correlation of -0,4 or above, between household poverty and primary school attendance. Against this background, high poverty rates in the country cannot be without effects on schooling, more especially rural schooling. The precise ways in which this has influenced schooling needs examining.

The economic crisis has resulted in an exodus of professionals, including qualified teachers, to neighbouring countries. Simmons (2001) cited by Ndlovu-Gatsheni (2009) reports that qualified and experienced teachers have sporadically left due to frustration and have

continued to seek employment in neighbouring countries. Makina's (2007) survey carried out on Zimbabweans who migrated to South Africa showed that 92% arrived in South Africa between 2000 and 2007. According to Makina (2007), 58% of the respondents' reasons given for leaving the country were political threats. 51% and 31% gave the economic crisis and better employment opportunities respectively as reasons for migrating. Since teachers in Zimbabwe were politically threatened (Stiff, 2000; Johnstone, 2011) and also frustrated by economic conditions (Simmons cited by Ndlovu-Gatsheni, 2009), there exists a high probability that a larger sample of emigrants were teachers. This high probability of teachers making up a larger sample of emigrants is confirmed from the argument that, from 2006 onwards there was an inflow of skilled personnel indicative of worsening economic situations. These Zimbabwean professionals were mainly teachers (Cross et al. 2009, p. 25-26). This exodus affected skilled manpower in schooling and had long term implications. Of importance is how this situation impacted on teaching and learning and, consequently, on learners' learning and development.

Infrastructure and service delivery have also been affected by the political and economic conditions of the time. The health sector has also been affected by the exodus of professionals to other countries (Besada & Moyo, 2008). Health service delivery indirectly affects schooling with regards to immunisation of learners and health care generally. Thus the shortage of food and lack of health service delivery has a negative influence on schooling. It is against this background that the study seeks to understand what consequences such conditions of schooling have for teaching and learning and for learners' learning and development.

The school where the study was conducted is in the rural Gwanda area. This setting is thought to be one of the most vulnerable because of the impact of the present economic crisis. According to the African Government Report (2009, p. 58), 70% of poor Africans live in

rural areas and poverty in the continent is largely a rural phenomenon. Thus, investigating the effects of the current conditions of schooling in a rural context should provide crucial results of what the long term effects of the complex contextual factors on classroom teaching and learning and learner's development would be, as well as how intervention programmes could be organised to support teachers' practice and the learning process for learners.

### **1.1. Rationale of the study**

It is hoped that the study will enable a new understanding of the modes of schooling and classroom teaching and learning in rural Zimbabwe, and the ways in which these are regulated by the specific cultural practices in this region. Since rural Zimbabwean schooling takes place in a unique socio-cultural context, the findings of the study should provide new knowledge of how different socio-cultural contexts impact on cognitive development.

### **1.2. Aims of the study**

The study aims to investigate the modes of classroom teaching and learning in a primary school in a rural southern area of Zimbabwe and to examine the influence of the 'cultural context' of schooling on learners' learning and development. The study also aims to examine the conditions of schooling and the current political and economic crisis and how they have influenced, and continue to influence, teaching and learning, and consequently learners' learning and development

### **1.3. Research questions**

The research study examines the question of the nature of the conditions of schooling in rural Zimbabwe during the period of 2010, and their consequences for children's learning and development.

The specific questions that arise from this broad question are:

What are the dominant modes of classroom teaching and learning?

How do the socio-cultural conditions of schooling affect the practices of classroom teaching and learning, and learners' cognitive development?

What are the cognitive developmental consequences that result from the specific forms of classroom teaching and learning that dominate schooling in rural Zimbabwe?

#### **1.4. Structure of the dissertation**

Chapter one presents the research problem of the study. The study seeks to investigate the conditions of schooling and the consequences these have on learners' learning and development. This is investigated by examining the practices of teaching and learning and how these are influenced by the unique socio-cultural context in which schooling takes place. The chapter also presents the unique socio-cultural context of rural Zimbabwe, describing these with reference to existing literature on socio-political, socio-economic and educational conditions.

Chapter two provides the theoretical background upon which the study is anchored. Particular attention is drawn to the theoretical conceptions that help in the understanding of the unique socio-cultural context of the Zimbabwean schooling and the relationship between teaching, learning and development. The theoretical background is given so as to inform the analysis of data and discussion of findings in chapter four and five respectively. It is important to provide insights as a background against which teaching; learning and development processes can be understood. This in turn facilitates the addressing of the question of the ways in which these socio-cultural conditions affect teaching and learning and what developmental consequences result from the specific forms of classroom teaching and learning in rural schooling in Zimbabwe.

Chapter three outlines the methods of the study. The chapter describes the research method and how this influences the design of the study. The methodology used is informed by a qualitative approach. It also outlines the approach used to carry out the study, a case study of ethnographic genre. Methodological techniques of data collection consisting of observation and interviews are also provided. Justification for adopting the methodology and approaches used is provided.

Chapter four involves analysis of the data. The data is analysed in the light of the analytic themes. The chapter analyses themes that emerged from data. The method of analysis involves descriptions and evidence of data provided in some cases, in form of tables. Theoretically informed interpretations are then used to interpret the themes that emerged from data. The themes analysed include the unfavourable conditions of schooling, cultural factors influencing schooling, modes of classroom teaching and learning and their consequences for teaching and learning. This method of analysis involves the description of the unfavourable conditions and the ways in which they have negatively influenced schooling and resulted in the breakdown of schooling and hence the contradictions<sup>3</sup>. The analysis also focuses on how classroom teaching and learning has been influenced by the sociocultural context, that is, cultural traditions and the ways in which all these result in negative consequences for classroom teaching and learning, and consequently for learners' learning and development. This process enables the use of the data to address the main research questions of the study.

Chapter five discusses the findings of the study. The findings of the study are discussed in the light of how they answer the research questions of the study. Theoretical conceptions are used as insights to illuminate the discussion of the findings. The discussion of the results

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<sup>3</sup> In this study, contradictions has been interpreted as ambiguities in the Zimbabwean society and schooling and will be explained in detail in the first paragraph of chapter four

focuses on what consequences the modes of teaching and learning have for learners' learning and development, as influenced by the socio-cultural context that includes culture, the political and economic conditions of schooling at the time. This makes possible the answering of the research question: what developmental consequences resulted from the dominant forms of classroom teaching and learning in rural schooling in Zimbabwe? The chapter concludes the study and presents recommendations for the improvement of teaching and learning in rural Zimbabwe. Improvement of teaching and learning considers that the modes of teaching and learning be informed by the models that have been successful in facilitating cognitive development in learners.

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## CHAPTER TWO

### THEORETICAL BACKGROUND

#### 2. Introduction

The chapter provides the theoretical background on which the study is anchored. Theory provided relates to cognitive development. The theoretical background on development has been provided in the light of the Vygotskian framework. Thus, theoretical insights on culture, teaching and learning and sociocultural contexts as being important aspects in the process of learner development will be discussed in this chapter. This framework will help to understand the ways in which both the unique rural Zimbabwean socio-cultural context and classroom teaching and learning influence cognitive development.

The theory method and the socio-historical theory, one of Vygotsky's central tenets in development, are discussed. Theoretical insights on theory method and socio-historical theory are both important and useful to this study because they provide an understanding of the dialectical relationships and processes of change involved in development. An understanding and application of this theoretical framework is also important in terms of providing a historical study of development and as a way of explaining causality. The theory method, together with socio-historical theory, will therefore inform the research design for generating relevant and useful data that will address the research problem presented by the study. It is hoped that this theoretical framework will lend the study a high level of objectivity and therefore ensure that the findings are valid, reliable and ultimately useful.

The theoretical review will involve and include discussion of the following:

- Approaches to teaching
- Cultural development of higher psychological processes
- Everyday-spontaneous and abstract- scientific concepts

- Teaching, learning and development

## **2.1. Approaches to teaching**

Approaches to teaching are important to this study because it is through teaching and learning that development is promoted. For teaching to be effective understanding of how learners' learn needs to be taken into consideration. Traditional teacher-centred and learner-centred approaches are, among others, of particular relevance and importance for this study. This is because they help to understand the practices that dominated in the context of the school where the study was conducted, and what consequences these have had on learners' learning and development. The teaching approaches are also important for this study because they have aroused a lot of debate taking place in various education circles and in different sociocultural contexts. The origins and nature of these teaching approaches are examined.

The teaching approaches are discussed here because this may possibly explain the origins of the dominant teaching approaches which continue to be used today in the Zimbabwean context. Traditional teaching approaches are informed by behaviourist perspectives that emphasise demonstration of knowledge through observable behaviours. Proponents of behaviourist approaches are, among others, Thorndike, Skinner and Pavlov. They used stimulus-response tendencies to explain how people and animals learn. Their work derives from the view that 'knowledge' is in the external world, and has an existence in a space outside of the learner. Learners should therefore use their senses to detect stimuli in the external world in order to gain this 'knowledge'.

### **Traditional teacher-centred approach**

Traditional teacher-centred approaches are based on models of former colonial education practices in most African states including Zimbabwe (Mungazi, 1992; Chung, 2006). Traditional teacher-centred approaches will be discussed in the context of South Africa

during Apartheid as described by Muthivhi (2008). Muthivhi (2008) defined this approach in terms of the teacher being the centre of a classroom teaching and learning activity. Teaching was based on the transmission of facts. The teacher derived authority from textbooks and syllabus content which he or she depended on as the main or sole source of ‘knowledge’. According to this model, learning had little to do with genuine understanding and personal mastery of knowledge by pupils, but more to do with passive, rote based acquisition of facts and procedures for acting correctly<sup>4</sup>. Learners reproduced facts from textbooks or from the teacher during assessment through “objective” testing of skills and knowledge (Muthivhi, 2008).

Though teacher-centred approaches are described in terms of the South African context during Apartheid, the characteristics of this approach are the same as those of other teacher-centred approaches like those of Zimbabwe before independence, the period before 1980. The most significant feature of this teaching approach is that it is the teacher who is at the centre stage and subject content mastery is of paramount importance. The teacher plays an active role in organising subject content. Teaching involves the breaking down of subject content into small teachable steps for the learners’ desired behaviours. In teaching, subject content is transmitted to learners according to the teacher’s own interpretation. Thus, the practice is authoritative with the teacher having the upper hand in the learning activity. Positive feedback from learners is experienced through rote learning and memorisation, rather than through discussion with learners. Assessment is accomplished by standardised and ‘objective’ tests. These tests are considered as a window through which to determine knowledge acquired and to attain specific objectives for learners. Discipline of learners is highly regarded and is enforced through punishments and rewards. Corporal punishment was one of the ways of enforcing learner-discipline.

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<sup>4</sup> ‘Acting correctly’ means reproducing the ‘correct knowledge and facts’ and behaving in accordance with the required code of classroom discipline

Teacher-centred approaches however have shown to have problems for classroom teaching and learning. Corporal punishment for example which teachers used as a disciplinary measure has psychological implications for learners. According to Vygotsky every form of punishment places both the teacher and the student in the most painful and difficult of positions because neither love nor respect can be preserved between the teacher who is inflicting punishment and the child he is punishing (Vygotsky, 1997). Thus, corporal punishment does not foster good teacher-pupil rapport and in turn affects the way learners' learn in the classroom.

Again the most profound problem of the teacher-centred approaches is the learners' failure to transfer or apply knowledge to practical everyday situations. This situation comes about due to the way, in which children learn, that is memorisation of facts without genuine understanding of what they mean or how they can be applied (Muthivhi, 2008). In addition this approach results in a lack of initiative on the part of learners who have learnt to look to the teacher as the source of all knowledge. From the Vygotskian perspective, this approach impacts negatively on learners' learning and development.

The teaching approach has limitations also in its emphasis on acquisition of knowledge and skills by learners. From the Vygotskian perspective teaching approaches that emphasise these do not promote cognitive development in learners. This is because these approaches fail to take into account the idea that knowledge serves two purposes, that of mediating human activity on one hand, and that of mediating development of higher psychological processes on the other (Egan & Gajdamaschko, 2003). This means that, in their emphasis on acquisition of knowledge and skills, traditional approaches overlook the role that important processes of social interaction (human activity) and mediation play in promoting and fostering the cognitive and psychological development of learners.

The approach also has limitations in the way in which assessment of learners is determined by means of ‘objective’ testing. From the Vygotskian perspective, this way of assessment is not adequate as a measurement of learners’ development. This is because it only measures what the learners have achieved. According to Vygotsky (1978), learning potential lies beyond existing performance and thus assessment should also go beyond the actual ‘measurable’ performance levels. Kuzolin (2003) proposed a system of ‘dynamic assessment’ (DA). Kuzolin (2003) explains that, this type of assessment focuses on those functions that are emerging at a given moment in a learner and that are not yet fully developed. According to Vygotsky’s explanation on this kind of assessment, a learner is asked to solve problems that are beyond his mental age with some kind of cooperation to determine how far the potential for intellectual cooperation can be stretched and how far it goes beyond his mental age (Vygotsky, 1998, p. 202). Thus in essence, dynamic assessment involves measuring not only what has been achieved in learning but includes the potential of learners, and thus may supplement ‘objective’ testing.

### **Empirical approaches to teaching**

According to Davydov cited by Kuzolin (1990), traditional approaches to teaching include ‘empirical’ modes of teaching. He describes empirical approaches as involving traditional methods of instruction, where the starting point in learning is an immediate, observable property of an object<sup>5</sup> (Kuzolin, 1990). In essence, traditional approaches do not only involve teacher-centred approaches but also empirical teaching approaches. Thus according to this perspective, traditional approaches to teaching can involve teacher-centred approaches, empirical approaches or a combination of both approaches.

In expanding on his description of this approach Davydov, as cited by Kozulin (1990), stated that, from the observable properties of the object, some common features observed in a

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<sup>5</sup> “Observable properties of an object” in this context is used in relation to concrete spontaneous experiences, that is, teaching from what learners already know about an object or concept from their everyday experiences

number of objects are then abstracted until a generalisation is formulated, verbally labelled and turned into a concept (Kozulin, 1990). This means that empirical approaches, as instances of traditional approaches, involve teaching that proceeds from the concrete to the abstract experiences. In essence, empirical approaches involve teaching that proceeds from learners' everyday experiences to new school knowledge. For example, in the process of using the empirical approach to teach the concept of a circle, the idea would proceed from such round objects as wheels, the sun or pancakes. The common feature would be that they are all round and the general geometric form of circle would be deduced from that.

Davydov as cited by Kuzolin (1990) pinpointed the limitations of this approach that, the essential distinction between everyday generalisations and scientific concepts is obliterated in learners. This means that when this approach is used, learners fail to distinguish between the everyday and the scientific concepts. In essence, this approach reinforces everyday concepts and everyday forms of learning in learners rather than developing an understanding of scientific concepts. Davydov as cited by Kuzolin also argued that learners fail to appreciate the distinctive logic of scientific inquiry (Kuzolin, 1990). In, essence, learners do not develop scientific skills because the approach does not 'transform' learners and their learning from their everyday forms of learning. Thus, in terms of the problems of traditional approaches to classroom teaching and learning, there has been a paradigm shift to embrace the child-centred approaches proposed by the post independence curriculum.

### **Child-centred approaches**

A child centred approach to teaching and learning is a relatively recent model of practice proposed after attainment of independence in most African states including Zimbabwe. It emphasises the active engagement of learners in the construction of knowledge. The approach is informed by constructivism which is a theory of learning according to which learners are active agents of their learning (Jarvis, 2005). The approach is also influenced by

the understanding that learners bring with them prior knowledge and can construct new knowledge on the basis of the knowledge they have. Thus this teaching approach emphasises that learning should be considered as a social rather than an individual activity as development occurs through interaction with peers and teachers. In this approach the child actively engages with others in the construction of knowledge while the teacher acts as guide and facilitator.

### **Social constructivism**

Child-centred approaches have their roots in social constructivism, a theory of learning that is informed by Vygotsky's proposition of how development occurs. Within this framework, learning constitutes a responsibility shared between the learner and teacher in a socially constructed world. This means that both the learner and teacher get involved in the construction of knowledge. In essence, both teacher and learner have the responsibility for learning, the teacher being a mediator and the learner jointly participating in what is mediated to him or her by the teacher. From this perspective the practice of teaching and learning is a social activity negotiated between teacher and learner. Thus collaborative experiences characterise this approach.

According to Moll (1989, p. 715), teaching is a social activity in which meaning is mediated to and negotiated with a learner. In essence, the teaching approach, as informed by social constructivism should involve the teacher mediating knowledge until the child is able to self regulate herself or himself. Organisation of child-centred approaches in this way derives from Vygotsky's emphasis on the role of culture<sup>6</sup> in a child's development. Thus, the emphasis is on the extent to which learning is mediated by the child's culture (Jarvis, 2005).

The limitations placed by educationists on accepting and using child-centred approaches derive from the misconceptions that surround them. Most teachers have misconstrued the

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<sup>6</sup> The term culture in this context has been used in reference to both schooling conditions and the traditions, values and norms emphasised, as resulting from the organisation of wider society and child rearing practices

aspect of learner constructing his own knowledge by understanding it to mean that they cease teaching. Ernest (1993) argued that the approach provides the scope for the individual to be seen to be able to construct whatever reality he or she likes. This brings the teaching and learning process into question because school knowledge and its acquisition is seen in 'scientific' terms, it cannot be 'constructed' in whatever way the 'constructor' chooses. Thus, for the effective use of child-centred approaches in the classroom, teachers must have a clear understanding of what is involved in this approach.

Understanding of traditional teacher-centred approaches and of learner-centred approaches to teaching and learning is of importance to this study as this will inform and assist the analysis of the approaches used, whether, in a particular classroom situation a transformation from the previous traditional approaches to embrace child-centred approaches has taken place or not, or if transformation has taken place, whether this transformation is it total or is instantiated at the same time that it is transformed (Muthivhi, 2008). This involves a situation where the two approaches are being used at the same time that it becomes difficult to analyse whether meaningful or actual transformation has occurred or not.

## **2.2. Cultural development of higher psychological processes**

### **Vygotsky's theory-method**

For one to understand cultural development of higher psychological processes, it is important to understand the Vygotskian theory-method first. The theory method explains the causal dynamic relations, that there should be consideration of deep underlying causes rather than mere descriptions of issues. This is because certain elements in society are dialectically interrelated and influence each other. In essence, the development of higher cognitive and psychological processes is influenced by factors that are themselves interrelated and that are connected to it. Thus to understand cognitive development in a specific context, it is important to consider other elements connected with and influencing it.

Understanding Vygotsky's theory method is important for this study because it lends substance to the idea of considering underlying causes when examining development as taking place in a specific context. It also highlights the importance of considering the influence of elements interrelated and inter-connected with development, and how they are influencing it. Vygotsky's theory method will therefore be used to inform the design of the study and to generate data necessary for understanding the influence of the socio-cultural context on learners' cognitive development.

### **Culture and development**

In order to understand the development of the individual's higher psychological processes using the Vygotskian perspective of the dynamic causal relationships and the interrelatedness of elements in society, one has to understand the particular social and cultural context within which these processes are developing (Vygotsky, 1978). This means that the social and cultural context plays a major role in influencing the development of the higher psychological processes in an individual. The social and cultural context provides an individual with the psychological tools for learning. These mediate the individual thought processes, enabling changes in his or her functions in the process.

According to Vygotsky, culture plays an important role in development through the mediation of the psychological tools in children to develop and use in order to understand the world. In his elucidation of the Vygotskian idea of the socio-cultural context influencing development, Matusov argued that the social, cultural, historical and political particularity of a situation that influences an individual may lead to different developmental directionalities (Masutov, 2008, p. 9). This means that different socio-cultural contexts and conditions of living influence development differently. In the schooling situation the socio-cultural contexts and conditions of schooling have an impact on learners' development. Thus, to

understand the process of this development it is important to consider it within the larger context of cultural traditions and conditions influencing it.

Matusov argued further that “Technologically advanced societies develop new cultural tools that mediate psychological processes in new and more advanced ways” (Matusov, 2008, p. 18). This means that technologically developed social contexts in turn influence advanced development. This is as a result of the mediation of advanced cultural tools in the process of cognitive development in advanced ways. Thus, differences in development between technologically or industrially advanced societies and ‘traditional’ societies owe to the influence of the different sociocultural contexts. For the purposes of this study, this understanding will be used to illuminate and underpin the analysis and discussion of the ways in which the unique socio-cultural context and conditions of schooling have affected the practices of classroom teaching and learning, and the processes of learners’ learning and development in the particular rural context of schooling. Masutov’s idea of socio-cultural contexts influencing development differently according to context aligns with Vygotsky’s explanation of development:

Higher psychological processes are not superimposed as a second story over the elementary processes, they represent new psychological systems.....The formation of a new functional learning system includes a process akin to that of nourishment in body growth, wherein at any particular time certain nutrients are digested and assimilated while others are rejected (Vygotsky, 1978, p. 124).

In essence, the development of higher psychological processes is largely dependent on the extent to which the cultural context is supportive of this development. A rich cultural context will to a larger extent have a richer influence on the development process, just as the body develops faster and better when it receives rich nutrients. For the purposes of this study it will be important to analyse whether the conditions of schooling, that include the socio economic and political conditions and the various elements of a unique traditional and rural society

within which schooling takes place, have provided a rich context for the cognitive development.

### **Socio-historical understanding of development**

Vygotsky's socio-historical theory provides understanding that societies are in a constant state of flux and change. Through this theory, Vygotsky posits an explanation of how changes and variations in cognitive development take place. According to this theory, social context continues to change and thus, development needs to be understood in a historical context. The Vygotsky-Luria expedition illustrates the inter-relatedness of social and cultural context and cognitive development in individuals (Luria, 1976). Their study done with the Uzbekistan community during the period around 1930s revealed that change in the social context of individuals also manifests change in their ways of thinking.

The study was carried out during the rapid cultural and social changes which came about as a result of the Russian revolution. This period involved radical transformation in the social and economic lives of the Uzbekistan traditional community. There were rapid changes involving formal schooling for adults, collectivisation and advanced agricultural developments. In comparing the cognitive functions of the schooled and unschooled subjects at the time, Luria found that schooled subjects manifested changes in their cognitive functioning. They were able to categorise objects in abstract terms and to use general terms in classification. On the other hand unschooled subjects manifested contextualised thinking tendencies. Though these findings were generalised to other sociocultural contexts, subjecting them to contestation by Cole (1996), the study revealed that change in the social context also in turn influences changes in cognitive development. The study also revealed that formal schooling plays a major role in the development of cognitive functioning.

Sociohistorical understanding of development is important because it enables us to trace development in historical terms. This is of importance for the current study. The Vygotsky-

Luria experiment relates to the understanding of conceptual manifestations within a socio-cultural context of a non-industrialised traditional setting. The current study was carried out during the time of socio-economic and socio-political upheavals in the Zimbabwean context of schooling in 2010. Profound and rapid changes have been experienced in the social, cultural, economic and political lives of the participants in the rural Zimbabwean study. This could have implications for the practices of classroom teaching and learning and consequently for the mental development of learners and necessitates a study that traces changes in development. The idea of understanding cognitive development in historical terms is further explained in the argument that:

The entire existence of the Australian aborigine depends on his boomeranging, just as the entire existence of modern England depends upon her machines. Take the boomerang away from the aborigine, make him a farmer, then of necessity he will have to completely change his lifestyle, his habits, his entire way of thinking  
Vygotsky & Luria (1993, p. 74).

In essence, when changes occur in the social and economic context they impact on cognitive development. This is due to individual-society dialectical processes. When the social context changes, individuals' thought processes also change. The Vygotsky-Luria expedition with the Uzbekistan community strikingly illustrates such developmental changes (Luria, 1976). For the purposes of this study this theory will underpin the understanding of the ways in which the socio-cultural, political and economic changes that are presently being experienced in a particular school in rural Zimbabwe have influenced changes in the ways of thinking of teachers and learners.

### **General genetic law of development**

Vygotsky's theory of social and cultural development, the general genetic law of development, explains clearly how an individual's higher psychological processes are developed culturally. As he describes it:

Every function in the child's cultural development appears twice. First on the social level and later on the individual level. First between people (inter-psychological) and inside the child (intra-psychological). This applies equally to voluntary attention, to logical memory and to the formation of concepts. All the higher functions originate as actual relations between human individuals (Vygotsky, 1978, p. 127).

This means that higher psychological processes develop in individuals in the process of social interaction with parents, siblings or teachers at school. This development is also experienced and manifested in the participation of individuals in cultural activities in society. During this first level of a child's development more knowledgeable others mediate to the child through psychological tools<sup>7</sup>. On the second level the individual reconstructs the psychological activity, changing the externally mediated tools to signs which he or she uses to self-regulate him or herself. When this is experienced, psychological functions radically change from the external and social to the internal individual.

To illustrate the development of psychological processes from the inter-psychological category to intra-psychological functioning, Vygotsky (1978, p. 56) used the gesture of pointing. Vygotsky stated that when a child is attracted to something he wants, he points at it. The gesture of pointing is an indication of an unsuccessful attempt to get something. When an adult notices the child's pointing gesture he or she helps the child to get what the child is pointing at. At this point the gesture becomes a social activity between the child and the adult. When the child understands that others also understand what his gesture means, he or she links a pointing gesture with the task situation. When the child makes this link, he or she internalises that the gesture is pointing and he or she also comes to understand its meanings and functions. Having internalised the gesture of pointing and its meanings and functions, the child can now meaningfully use the gesture in other social activities. The description of the

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<sup>7</sup> Psychological tool in this context refers to the language, the knowledgeable other uses when interacting with the child

gesture of pointing means that an activity starts as an inter-psychological category and is internalised as an intra-psychological category during the process of social interaction.

According to Vygotsky (1978, p. 56), ‘internalisation’ is the process of internal reconstruction of external operations. This means that the child transforms what is mediated to him or her by the adult to her or his own system of knowledge. When this happens change occurs in a child’s cognitive functions and there is development from lower to higher levels of thinking. An individual thus attains independent functioning as he or she self regulates<sup>8</sup> him or herself. It is of importance to this study to understand the concept of internalisation because it is the process through which cognitive development is promoted as a result of social interaction between a teacher and a learner at school, including the processes of classroom teaching and learning. The idea will be used to illuminate the analysis of whether mediation in the form of teaching and learning in the school where the study was conducted, promoted development or not.

### **Context and development**

‘Context’ as a concept influencing cognitive development is considered by Cole (1996, p. 132) from two perspectives. The first perspective is influenced by Bronfenbrenner’s ecology of human development. Context according to this conception includes that which surrounds and is represented in concentric circles (Bronfenbrenner, 1979). According to this model the learning task and the learners are in the core centre, surrounded by the teacher and the classroom which is in turn surrounded by the principal and the school organisation, surrounded by the community organisations, the parents and other socio-cultural factors. This means that the concentric circles represent all the factors that influence the cognitive

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<sup>8</sup> When an individual “self regulates” him or herself, it means that the external has been internalised through the processes of social interaction and mediation by more knowledgeable others and the individual can thus be able to function independently applying that which he internalised from the social environment

development of a learner. Cole also considered context as that which is intertwined with other elements in society:

Sometimes I like to think of a rope. The fibres that make up the rope are discontinuous; when you twist them together you don't make them continuous, you make the thread continuous... Cole (1996, p. 135).

In terms of this analogy, the context within which an individual's development takes place is dialectically intertwined with other elements in society. In the particular context of the study it suggests that culture is both intertwined with schooling and influencing it. Thus a metaphor of weaving a continuous rope using disparate threads is used to illustrate the interrelation of culture weaving its different fibres into schooling, the rope.

Both perspectives of context will be used to underpin the current study. The idea of context as that which surrounds will be used to analyse and discuss how the conditions of schooling have impacted on teaching and learning, consequently learners' learning and development in a particular rural school. The idea of context as a rope and as an 'interweaving', will be used to analyse and discuss how cultural traditions as intertwined with schooling, influences it and teaching, learning and development. Expanding on the process of development, Vygotsky argued that cognitive developmental consequences are experienced in schooling:

School education is qualitatively different from education in the broad sense. At school the child is faced with a particular task to grasp the bases of scientific studies, i.e., a system of scientific conception. The early concepts that have been built in the child in the process of living, and which were assisted by rapport with his social environment, are now switched to a new process, to a new specially cognitive relationship to the world, and so in this process the child's concepts are transformed and their structure changes. In the development of a child's consciousness the grasping of the bases of a science-system of concepts now takes the lead (Vygotsky, 1978, p. 130).

This means that it is in formal schooling where there is a systematic procedure that specifically promotes cognitive development. This explanation is very important in understanding that the school is the socio-cultural context in which cognitive development

takes place. The practices of teaching and learning should therefore not be considered in isolation from the cultural context that influences development. For the purposes of this study it is also important to understand that schooling and its conditions influence teaching and learning, which in turn influence development in learners. This understanding plays an important role in the answering of the question: What is the nature of the conditions of schooling in rural Zimbabwe and what consequences do they have for children's learning and development?

### **Contradictions in development**

Cole (1996) and Cole and Scribner (1974) reported on incidents where they observed 'contradictions' in a schooling situation. Participants would perform competently in solving everyday problems in their contexts while they performed poorly in school tasks. For example, Cole (1996) experienced a dilemma, or 'contradiction', in his observations of Liberian children's performance in Mathematic operations in schools and in the activities of buying and selling in the community. In many schools he visited in Liberia children manifested difficulties in mathematical operations. However, when helping in the trade of buying and selling rice in local market places, they were totally accurate in the estimation of weights and measurement. Cole (1996, p. 73) had to ask himself, "How can people be so accurate and so dumb at the same time?"

Contradiction is a term that emerged from Marx's analysis of conflict in history and society. In the capitalist system, conflicting interests between the owners of the means of production and the workers were observed regarding labour. The interests of the owners of the means of production constituted an economic advantage in comparison with the labour provided by workers. This resulted in the owners of the means of production rather than the workers benefitting from the labour. In analysing the relationship between labour and the means of

production Marx identified areas of ‘conflict’ of interest between social classes. These conflicts he termed contradictions. Marx outlined the major contradiction:

Wealth in capitalist society is produced by the labour power of the workers. However much of this wealth is appropriated in the form of profits by the ‘capitalists’, the owners of the means of production. The wages of the workers are well below the value of the wealth they produce (Haralambos & Holborn, 1991, p. 13).

Thus in essence, contradictions are those ambiguities manifested in society when what is expected conflicts with what happens in reality. Vygotsky’s theory of development which is the theoretical framework of this study bases mostly on Marx principles of dialectic materialism and extends it. In explaining development, Marx understands man to continually change himself through the processes of labour. Vygotsky also explains human development in terms of man being constantly involved in the process of change, hence the need for development to be understood historically as in the sociohistorical theory. Thus ideally Vygotsky’s theories of development and Marx’s are related and interlinked. Marx’s version of contradictions will therefore be used as an interpretive framework for analysing how conflicting experiences (contradictions) in schooling manifested as a result of unfavourable conditions and how this impacted on teaching and learning and learners’ development.

### **2.3. Everyday-spontaneous and abstract-scientific concepts**

According to Vygotsky the distinction between everyday and scientific concepts is important if cognitive development is to be effectively facilitated in learners. Vygotsky outlines the difference between everyday-spontaneous and abstract scientific concepts:

Spontaneous concepts are those the child learns in the course of his daily life. Their learning is not usually made conscious; the child uses such concepts with ease and without any awareness that there is such a thing as a concept. Scientific concepts are typically learned in a school setting as a system of knowledge. They have explicit verbal definitions. Their learning is made conscious. They are taught in the context of academic subjects such as social studies, language instruction and mathematics (Vygotsky, 1987, p. 177).

Thus, everyday-spontaneous concepts are those that the child acquires informally through day to day interactions in the context of her or his locality. Everyday–spontaneous concepts therefore involve concrete, contextualised and locally based knowledge systems. On the other hand abstract-scientific concepts are acquired formally through schooling. They involve abstract scientific knowledge. Understanding this difference is important for understanding how teaching and learning could or should take place.

According to Vygotsky (1987, p. 169) higher levels of conscious awareness of scientific concepts are produced in systematic cooperation between teacher and child. This means that learning of scientific concepts involves a system of knowledge by means of which the child acquires these concepts. In essence, learners' learning activity at school requires a well structured teaching and learning programme which is different from the everyday ways of learning to which the child has been exposed. It is therefore important for teachers to organise and structure their practice of teaching and learning in ways that are different from the everyday forms of learning.

Kuzolin elaborated Vygotsky's ideas about the everyday-spontaneous and abstract-scientific concepts. He argued that everyday concepts emerge spontaneously from reflections on immediate everyday experiences. They do not have a conscious system for learning concepts but are bound by concrete life contexts. On the other hand, learning of scientific concepts is a highly structured and specialised activity of classroom instruction. These classroom strategies are characterised by hierarchical, logical and de-contextualised organisation (Kozulin, 1990, p. 168). From this understanding, everyday concepts represent prior knowledge that the children bring to classroom learning. On the other hand scientific concepts are those school-specific, logical and highly structured concepts taught in school in academic subjects.

Vygotsky (1978) however argued that far from being unrelated, everyday-spontaneous and abstract-scientific concepts interact with each other. In order to start acquiring scientific

concepts a child should have some experience with generalisation which usually takes the form of spontaneous everyday concepts. This was elaborated by Kozulin when he argued:

It takes the interaction of scientific concepts which progress downwards from empty generalisations to greater concreteness, with everyday concepts which move upwards towards greater systematicity, to make up the child's thoughts (Kozulin, 1990, p. 168).

This means that both everyday-spontaneous and abstract-scientific concepts are necessary components of the learning process and that they influence each other in generating scientific functioning and cognitive development. Everyday-spontaneous concepts serve as the foundation from which the abstract-scientific concepts develop. At the same time abstract scientific concepts play a role in generalisations.

From the understanding above, both the everyday-spontaneous and abstract-scientific concepts are important for teaching, learning and development. Of importance is how they should be utilised so as to facilitate development in learners. Kozulin (1990) argued that the everyday-spontaneous concepts represent the actual level of development while abstract-scientific concepts represent the potential developmental level. In essence, everyday-spontaneous concepts represent functions that have matured in a child, while the abstract-scientific concepts represent those concepts that are on the verge of maturing. In this regard, a prerequisite to developing abstract-scientific functioning would be the targeting of teaching and learning at a level higher than the child's developmental level. This means that teaching and learning should proceed from abstract generalisation to everyday concrete experiences. Concrete activities in which learners engage in are meant and aimed at revealing the abstract; that learners are able to infer relations between the concrete and the abstract.

### **Further understanding of everyday and scientific concepts**

Davydov cited by Kozulin (1990) critiqued the distinction between everyday spontaneous and abstract scientific concepts made by Vygotsky. He argued that Vygotsky's distinction is

not adequate because spontaneous concepts can display a certain degree of being systematic while much of what is traditionally taught at primary school does not go beyond “non-scientific” empirical generalisations (Kozulin, 1990, p. 256). This means that basing the binary distinction of the two on their sources of acquisition as asystematic and systemic is not adequate because they overlap.

According to Davydov cited by Kuzolin (1990), the central discriminating factor between scientific and spontaneous concepts should be their content, which is theoretical for the scientific concepts, and empirical for the everyday spontaneous concepts. This means that this distinction is achieved only in teaching and learning where theoretical approaches which are different from empirical approaches are used in formal schooling. This is in agreement with Karpov (2003) who argued that scientific knowledge should be taught directly to students rather than being ‘discovered’ by them. The type of learning that meets this requirement has been called theoretical learning (Karpov, 2003, p. 71). According to this model it is through theoretical methods that scientific concepts can be learnt by learners in formal schooling.

Neo-Vygotskians, amongst others Davydov (1986) and Galperin (1985) cited by Karpov (2003), further argued that developing scientific concepts alone in learners as proposed by Vygotsky is still not sufficient to facilitate scientific abstract functioning in learners. It is necessary to combine concepts with procedure because effective teaching should not only be that which teaches scientific concepts but also one which teaches procedural knowledge (Karpov, 2003). In other words teaching of procedure or method or rule is important in the teaching and learning of scientific concepts in formal schooling. Davydov (1986) & Galperin (1985) cited by Karpov (2003) argued:

The main features of such combined conceptual and procedural knowledge are high level of mastery, broad transfer and intentional use by students. Students are able to answer “why” questions, to substantiate the way in which they have solved a problem and to defend the results obtained.

This means that in order to develop learners who can transfer knowledge from one learning area to the other, and learners who can defend what they have as school knowledge, teaching and learning should, besides scientific concepts, also have procedures, or methods to help learners acquire and be able to apply these concepts. When scientific concepts are combined with methods or procedures they give learners a status of argument<sup>9</sup> (Karpov, 2003).

Vygotsky considered development and learning as dependent on the child's mastery of symbolic mediators. Symbolic mediators are psychological tools that develop in learners during learning activities at school. In essence, teaching and learning in formal schooling should be different from everyday ways of learning in order to equip learners with symbolic mediators. The ability of teachers and learners to make school learning different from everyday learning results from distinguishing between everyday concepts and scientific concepts. This distinction is important because, according to Karpov, scientific concepts serve as powerful mediators for learners' development (Karpov, 2003, p. 69). This means that if learners are to be helped in developing scientific ways of thinking there should be a utilisation of the scientific concepts as mediators. This is possible when teachers and learners are able to distinguish between scientific concepts and everyday concepts. For the purposes of this study, all of the models discussed in this section will be important in the process of understanding whether or not teachers were able to distinguish between everyday and scientific concepts in their classroom practice in the rural school which is the focus of this study.

## **2.4. Teaching, learning and development**

### **The relationship between teaching, learning and development**

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<sup>9</sup> "Status of argument" in this context refers to a situation where the learner is able to justify and defend his own knowledge because he understands the scientific method or procedure that he used to construct that knowledge

Vygotsky in his explanation of the relationship between development, and learning made suggestions for effective teaching and learning by explaining the use of the 'zone of proximal development' in the process. Explaining the relationship between development and learning as he understood it, Vygotsky argued that learning precedes development. This means that learning goes ahead of development, and development occurs when learning has occurred. Vygotsky argued that the reason and rationale for this lies with the zone of proximal development. Vygotsky defines the Zone of Proximal Development:

The distance between the actual developmental level as determined by individual problem solving and the level of potential development as determined through problem under adult guidance or in collaboration with more capable peers (Vygotsky, 1978, p. 86).

The actual level of development refers to those functions that have matured in a child, enabling him or her to solve problems on his or her own. Potential development refers to those functions that have not yet matured but are in the process of maturing. In other words there are two levels of development in a child, the first and second level of development. When functions at the first level have matured the child is able to solve problems on his or her own. On the second level of development, the functions have not yet matured. They are in the process of maturing. They enable the child to solve problems with assistance from an adult or others more knowledgeable on this level than the child. The zone of proximal development is the space between these developmental levels. It is where learning occurs.

The concept of the zone of proximal development (ZPD) is a methodological tool in the context of teaching, learning and development. The idea of the ZPD can help teachers to understand at what precise stage learning occurs in a learner. Classroom teachers can use it to inform the organisation of their lessons. Teachers who utilise the concept of ZPD in their teaching are able to facilitate learning that is oriented towards the cognitive development process of learners. This is because they are targeting the process of learning at the level

where development takes place in the learner. Vygotsky argued that teaching and learning should target those functions that have not yet matured but are ready to. It should not target those functions that have already matured. In essence, teaching and learning should take place or be directed at level above the actual developmental level of the child.

Holzman and Newman (1993, p. 60) expand on the Vygotskian ZPD idea. They agree that instruction is useful when it moves ahead of development. When this occurs it awakens a whole series of functions that are in that stage of maturation lying in the zone of proximal development. This means that teaching and learning strategies that target a child's actual developmental level do not play any role in developing or moving the child on to higher cognitive levels. When teaching and learning takes place at a level above the level of the child's actual development (at or within the zone of proximal development) it helps those functions in the process of maturing to mature and to form new functions for further development. The idea is summarised by Vygotsky (1987, p. 208-9):

The state of development is never defined only by what has matured. If the gardener decides only to evaluate the mature or harvested fruits of the apple tree, he cannot determine the state of his orchard. Maturing trees must also be taken into consideration. The psychologist must not limit analysis to functions that have matured. He must consider those that are maturing, if he is to fully evaluate the state of the child's development. The psychologist must consider not only the actual level of development but the zone of proximal development"

This analogy of children as fruit trees in an orchard with bud, flowers and fruits that have matured, and a teacher as a gardener, is very useful in understanding where teaching and learning which will be useful for development should be pegged. This is important for this study because it will facilitate the analysis of the practice of teaching and learning in terms of establishing whether it is targeted at the appropriate place for promoting development in learners, or not. It is also important for the consideration of whether the dominant modes of teaching and learning are equipping learners with opportunities for the kind of development expected of formal schooling.

## **Role of the teacher in teaching and learning**

The Vygotsky model emphasises the role that mediation and collaboration between the knowledgeable other as adult, peer, parent or teacher and learner plays in development (Vygotsky, 1978). In essence, development is facilitated through the role of teacher as mediator, mediating school knowledge to the learner in the course of the learning activity. Wertsch added that in this collaborative process there should be 'inter-subjectivity' (Wertsch, 1979; 1985). Inter-subjectivity means that both the knowledgeable other and the child should understand the meaning and purpose of what they are involved in. In essence, the important role of the knowledgeable other is to mediate to the child at the same time that the learner and the knowledgeable other jointly participate in the learning activity. Participation of the learner is important for inter-subjectivity. Inter-subjectivity enables the learner to understand that which the teacher is mediating to him or her through participation in the learning activity. This understanding helps the learner to re-construct what is mediated to him in the internal, hence the promotion of cognitive development.

Kuzolin (2003) argued that it is not only in the process of mediation by the knowledgeable other as teacher in classroom learning that development occurs; what is mediated and how it is mediated is also important. He argued that cognitive development depends essentially on the child's mastery of symbolic mediators and their appropriation and internalisation in the form of 'inner psychological tools' (Kuzolin, 2003, p. 24). Inner psychological tools involve, among others, language, a system of knowledge as system of mathematical signs, writing, diagrams and geographical maps. The inner psychological tools aid mastery of school knowledge. Thus, in essence, learning that promotes development should equip learners with the psychological tools they can use to internalise new knowledge. This can only happen in the course of special learning activities (Kuzolin, 2003).

To explain this Kuzolin gave an example of reading or interpreting a geographical map, that it can only be acquired in the course of a special learning activity at school, it cannot effectively develop spontaneously in everyday contexts. This means that there has to be a systematic way of mediating the learning process. There also has to be a systematic organisation of learning activities so that learners acquire the inner psychological tools necessary for development. In essence, approaches to teaching and learning in formal schooling should be different from those in learners' everyday forms of learning if learners are to acquire inner psychological tools necessary to promote development and to acquire formal school knowledge and skills.

For the purposes of this study, an understanding of this model will be important in the analysis and discussion of whether teachers in the particular context of a Zimbabwean rural school played their mediational roles to the extent that development in learners was effectively and usefully promoted. This theory will also be used to analyse whether or not what was mediated to learners had an impact on learners' learning and development. In essence, this model will be used to analyse and discuss what the dominant modes of teaching and their cognitive consequences.

### **Role of language in teaching and learning**

Vygotsky placed great importance on language because it is the psychological tool that differentiates man from animals. Language and development from Vygotskian perspectives are inseparable. Though developing along different paths at the beginning of a child's life, thought and language later become one (Vygotsky, 1962; 1986). This as explained by Muthivhi (2008) means that the early stages of the development of the child's thought involve use of language as a tool for mastering the social world. This means that the child uses language for interaction with other people around him or her. Later this transforms into

inner speech where the child uses language to self regulate his or her behaviour and thought processes.

Luria in agreement with Vygotsky (1962), understood thought processes as mediated by language. Words themselves become tools for formulating abstractions and generalisations that facilitate the transition from unmediated sensory reflection to mediated rational thinking (Luria, 1979, p. 49). This means that the child uses language first to understand the world around and later transforms from this and uses language in generalisations that mediate his or her thought processes. Vygotsky explained that the relation of thought to word is not a simple instantaneous event but a process, a continued movement back and forth. In that process the relation of thought to word undergoes changes which themselves may be regarded as development in the functional sense (Vygotsky, 1962, p. 125). This means that when there is no such process of relation of word and thought developmental changes are limited. It is through the psychological tool of language therefore that man transforms his thought processes from lower mental functioning to higher psychological functioning. Understanding the process involved in the relation between language and development is important for an understanding of how language is used in teaching and learning and will be used in the analysis and discussion of how language was used in classroom teaching and learning in the study.

Wertsch's language game best illustrates the process of interaction using language within the zone of proximal development at the level of pre-schooling. Wertsch's (1979)'s language game, though not related to classroom teaching and learning in formal schooling, is important in explaining how adults use language in helping to teach children until they reach a level when they function on their own. Wertsch (1979) discusses how adults can mediate in the zone of proximal development of children and assist them in solving a task. The game involves mothers and their pre-school children of two years and above constructing a copy of

a cargo truck through the use of a model. This problem-solving task involved the mothers regulating their children's thought processes to a point where the children reached a level where they did not need their mothers' assistance.

There were four successive levels that were identified from other-regulation to self-regulation in the processes of the puzzle building tasks. At the first level the children's understanding of the task and the interpretation of their mothers' utterances were very limited. To express lack of understanding at this level, Holzman and Newman (1993, p. 68) reported that in Wertsch (1985) one child of two and a half years old referred to the wheels of the truck as crackers. The mother agreed that they looked like crackers but were wheels that were supposed to make the truck. The child did not immediately take to that until the mother introduced the word circle. The child agreed that wheels were circles and mother and child continued their joint activity. This illustrates that the mother continued to mediate until at that level, the child developed the concept of wheels as circles.

At the second level the task situation is better understood by the child. Wertsch argued that the child begins to develop a definition of the situation. At the third level the child is capable of adequately functioning within the other-regulation. The child is capable of making all the inferences needed to interpret an adult's directives to formulate a definition of the situation. At this level inferences made by the child, although still carried out at inter-psychological level, indicate that self-regulation is beginning to account for much of the child's performance. Transition from other regulation to self-regulation is underway at this level. At the fourth level transition from other-regulation to self-regulation is completed. Wertsch observed that at this level the child enters into an "egocentric speech" that he uses to self-regulate himself in the task situation.

According to Wertsch progression from one level to the other should involve coherence between the adult's speech and the child's action. Adults should also use directives and

verbalisation above the child's level. For example, in the case where the child said wheels were crackers, the mother continued to verbalise at the level above the child until the child understood the concept of wheels which in turn was initially above his level. This enabled the child to use the correct word for wheels of the cargo truck. The first and second levels represent the child's actual level of development. In the processes of mediation by the mother in the zone of proximal development, children attained levels three and four which represent the potential developmental levels.

According to Muthivhi (2008) the dyadic instructional activity<sup>10</sup> at preschool levels creates an inter-subjective situation and guides the child into a qualitative transition towards an understanding of the task that initially lay in the child's zone of proximal development. This means that interaction within the zone of proximal development facilitates an understanding that was potential to the child with adult assistance. Thus the use of teaching strategies using language that is within the zone of proximal development facilitates learners' transition from inter-psychological function to intra-psychological functioning.

Wertsch's language game illustrates how adults use language to guide children into the mastery of the task situation. When children have internalised the language-based mediational processes, they transform these into their own, hence the egocentric speech manifested in a child's independent performance of the task. This is significant for the understanding of the importance of the use of language in teaching and learning in the specific context of schooling.

Observing the practices of teaching and learning in Venda schools, Muthivhi (2008) noted problems that arise from language use. Code switching, use of mother-tongue and exclusive use of English to non-speakers of English language, all pose problems for the practice of teaching and learning. Again in the experience of administering experimental tasks by Moll

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<sup>10</sup> Dyadic instructional activity in this context refers to the two way joint task between mother and child meant to show how the language tool is used in mediation and internalisation process by the child

(1994), Muthivhi (1995) and Muthivhi (2008) language complications arose that had implications for classification of objects by learners.

Explicating the language dilemma, Cole, Gay, Glick & Sharp (1971) explained that in the Kpelle language of Liberia, the word for medicine has a wider range of meaning than the equivalent English term. This means that when teaching about medicine as a school specific scientific concept, it is important that the learners' cultural concept of a term is taken into account. If this is not done the whole concept will be lost because of the interference of language as part of culture in teaching and learning. The current study involves a context in which the language of school learning is different from the learners' and teachers' home language. The linguistic theoretical concepts will therefore be important for illuminating the analysis and discussion on whether the particular use of language in teaching and learning promoted learners' learning and development or not.

### **“Question Asking Reading” as a joint activity**

Vygotsky considered development as proceeding from the social activities of teaching and learning. From this perspective, teachers and learners should therefore work collaboratively in the joint social activity of teaching and learning. When teaching and learning is understood as a social activity, the teacher acts as a mediator of knowledge to the learner, who in turn participates in the joint activity. Through participation in the joint-activity of teaching and learning as a social activity the learner internalises what is taught. Understanding teaching and learning as a social activity will help in the analysis of how the activity of teaching and learning is organised in the specific context of schooling.

Cole (1996) provides an illustration of how teaching and learning becomes a social activity in the context of teaching reading, a key aspect of literacy. Cole's (1996) model of teaching reading is known as Question-Asking-Reading (QAR). This reading activity was designed by Cole and his colleagues to teach reading to a group of learners with learning disabilities. The

design of this reading activity derives from Vygotsky's (1978) 'general genetic law of cultural development' which argues that psychological functions initially appear on the inter-psychological plane shared between people and subsequently become intra-psychological functions of an individual (Cole, 1996, p. 275). This means that the reading activity should be a shared and joint activity between child and adult before it is internalised as an independent activity by the child. Based on Chall's (1983) developmental theory of reading Cole (1996) describes the process of acquisition of reading:

Acquisition of reading is a developmental process requiring a qualitative reorganisation of behaviour, with mediation of one's comprehension of the world through print being present in embryonic form at the outset of instruction.

This means that reading lies in the zone of proximal development of the child and exists in the embryonic state awaiting mediation of the world through print to facilitate reading development. The above principles were basic guidelines for Cole's (1996) reading activity and child-adult interaction became for him a precondition for maturing the child's psychological functions in the process of reading.

Cole's reading activity involved the teacher and children engaging in a joint venture of reading a passage. Since the main goal was joint-activity, all those involved had roles to play in the reading process. The roles were written on cards which group members picked before they started reading. The roles on the cards included one member clarifying the main idea of text, another predicting what will happen next, another picking other members of the group to answer questions and another asking for explanations of those words which were difficult to understand. Firstly there was some discussion about the heading of the story to be read to predict what the text would be about. After that the various role cards described above were picked and all group members silently read the text. After reading the text all members participated according to their roles in the comprehension of the text. The main idea of the text and a prediction of the content of the text were given by the teacher and the group after

discussion and questions on the text were answered according to the roles of all members of the group.

Since Cole (1996) and his colleagues were dealing with learners with disabilities who had difficulties with the coding of the text, they modified the text through expanding the roles and choosing texts of interest to the learners. They also made the reading activity as interesting as possible to the learners. During the reading and role playing as processes of developing reading there were some learners, such as Armandito, who were dis-coordinated<sup>11</sup> and who lost track of the content of text. This however served as a basis for Cole and his colleagues to analyse the specific limitations of such learners. It was also at this point that Cole and his colleagues were able to observe where exactly internalisation had failed or succeeded (Cole, 1996, p. 281). In other words this particular kind of reading activity was designed to target the zone of proximal development of the children, thus, utilising learner-potentials, and dis-coordination manifested by other learners, Cole and his colleagues were able to locate where failure was in the development of reading.

In this activity learners were asked to fulfil partial roles which, as an ensemble, constituted many overlapping moments of reading for meaning and over time the children came to be fuller participants in the joint activity (Cole, 1996, p. 279). Thus in the process of actively participating in a joint reading activity through playing roles, learners acquired another aspect of reading: reading for comprehension which in turn influenced and facilitated their full participation in reading.

Cole (1996) argued that, although they had no control group, the QAR was an effective procedure for the acquisition of reading. Armandito who had initially manifested reading difficulties improved not only in reading but also in his behaviour. Subsequent similar modified reading activities developed after Cole's (1996) had control groups. These studies

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<sup>11</sup> Dis-coordinated in this context is used to refer to learners who were not able to play their roles well in the reading game as Armandito

showed that learners in the QAR group engaged with the tasks and demonstrated a greater interest in the content of the reading texts. This indicates an intimate link between the motivational, social-interactional and cognitive aspects of this reading activity (Cole, 1996, p. 284). This means that the QAR is not only an effective strategy for developing reading but also in addition increases learners' motivation and develops in learners cognitive functions as a result of social interaction.

Cole's (1996) reading activity provides a base for the designing and organisation of teaching and learning strategies that promotes development. This kind of activity also helps in the understanding of how a reading activity in particular can be facilitated through social interaction and joint activity. Cole's reading activity will thus be used as a basis to inform an analysis of the organisation of classroom teaching and learning in the study. It will also help in the analysis of how reading was taught as an important literacy activity.

### **Teaching models that generate cognitive development in learners**

Davydov, as cited by Kuzolin (1990) and Galperin as cited by Arieievich & Stetsenko (2000) offered particular theoretical approaches which could be used as models that can generate or facilitate cognitive development in learners. Theoretical approaches involve understanding the object from the abstract by using theoretical means to construct its ideal form<sup>12</sup> (Kozulin, 1990). In essence, theoretical approaches involve teaching and learning that proceed from new school knowledge to link with the everyday experiences of learners.

For example when a teacher uses the theoretical approach to teach the concept of a circle, the idea or concept could be introduced as a figure produced by the rotation of a line with one free and one fixed end (Kozulin, 1990). When a circle has been introduced to a learner in this way, the learner gets the universal general idea of a circle because all circles can be generated

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<sup>12</sup> Theoretical approaches contrasts the empirical approaches described early in the chapter. When using the theoretical approaches to teach about an object or concept, teaching does not start from experiences of learners about that object or concept but proceeds from the general properties of the particular object and learners come to understand the concept from abstraction and link with their everyday knowledge.

this way. According to this theory a learner's knowledge of a circle does not need to proceed from the everyday knowledge of round objects as in the empirical approaches. Galperin's teaching approaches as described by Arieievich & Stetsenko (2000) constitute an ideal model of a theoretical approach. This theoretical approach was used to teach the concept of number to Grade One learners. Galperin's approach also utilised the Vygotskian approach of equipping the learner with a cognitive tool that he or she can use to understand the concepts from the broader context. Measurement was used as a cognitive tool to understand that number is measurement.

Learners were involved in learning activities where they actively participated in measurement in everyday tasks. They were engaged in concrete activities where they compared objects in terms of their length, volume, size and weight. In the process they had to choose the appropriate measurements for various objects. During these learning activities they came to develop such concepts as less than, equal to and greater than. This was later related to a system of number and the learners developed the concept of units of measurement in its totality. This emerged from comparisons that involved measurements as greater than 1 or less than 1. This approach gave learners the method or cognitive tools which they could apply to all number systems. The Galperin approach as described by Arieievich & Stetsenko (2000) utilised the zone of proximal development, in which the concept of number is targeted at the level above the children's everyday experiences of number.

Teaching models that promote development do not reinforce everyday concepts in learners but utilise them as a foundation for the acquisition by learners of scientific concepts. Hedegaard's (1990) teaching experiment in Danish schools serves an ideal model for this. Hedegaard explained that the teacher's planning must advance from the general to the concrete whilst children's learning must develop from the preconceived actions to symbolisation of the knowledge they obtain through exploration (Hedegaard, 1990, p. 357).

In essence, learners' prior knowledge should be used as a base and learners guided to understand generalisations through participation in joint activities.

Her experiment involved initial activities of exploration of objects as well as museum visits and films. This constituted the utilisation of the prior and concrete everyday experiences of the learners. The experiment proceeded to involve learners in symbolising the relations they perceived through research activity by drawing and modelling the initial findings of their research. This means that Hedegaard had proceeded to help learners to make generalisations to understand and begin to formulate relationships between concrete experiences and abstract generalisations. Finally the children formulated the relations they perceived (Hedegaard, 1990, p. 357). In other words learners had been guided to the levels where they were able to make generalisations and formulate relationships between the concrete and the abstract.

In her teaching about the adaptation of animals in the course of evolution into new species Hedegaard started by utilising the everyday experiences of learners. She asked learners where they thought they came from. Further on in the process learners were guided into imagining scenes and imagining possibilities and so to construct knowledge of their own centred on the specific adaptation of a polar bear to new surroundings. This involvement of learners in exploratory activities enabled them to build their own models of the survival of a polar bear under new conditions. In the process of imagining, exploring and recording their findings, learners were able to establish relations and made generalisations between concrete experiences of human existence and abstract concepts of adaptation and evolution. In the process the abstract scientific concepts of adaptation and evolution were internalised by learners from their utilisation of prior knowledge and their real life experiences. Learners in this particular instance acquired scientific knowledge about the evolution of different species of animals. In this process they did not 'bring down' the scientific, abstract, scientific concepts to the concrete, everyday knowledge they already had about animals.

Hedegaard's teaching experiment also shows how learners can come to apply scientific skills to solve everyday problems. This is important because schooling should equip learners with scientific skills they can use in solving day to day problems. If scientific skills are developed in learners without relating these skills and concepts to problem-solving in the context of everyday life, they become what Kozulin (1990, p. 169) calls "empty verbal formula" of little or no use in a child's everyday life:

Scientific concepts run the risk of remaining empty verbal formula applicable to a rather narrow range of topics learned in school. School practice is full of situations in which the child becomes helpless when required to apply the concepts learned in the classroom to phenomena outside the school curriculum

In other words, if scientific concepts are learnt in a formulaic way, without understanding their application to solving day to day everyday problems of the learners, they serve no purpose in helping learners understand and deal with their everyday problems. Although concepts 'learnt' in this way may not be fully or usefully applied to everyday situations depending on the extent to which they are learnt in formal situations, more diluted versions of them could be applied by learners in some situations. For example, the report on Hedegaard's (1990) teaching experiment describes how she allowed the children to make their own findings through investigation, to explore possibilities and to imagine and make their own models. These tasks allowed the children to develop scientific skills that they could use in solving day to day problems.

Hedegaard's study will play an important role in this study when examining whether the practices of teaching and processes of learning promote development to the extent that learners are able to apply scientific skills they have 'learnt' in understanding their day to day experiences and in solving their day to day problems. This will also lead to further analysis of the practice of teaching and learning in the specific context and whether it is developing and could develop learners who can contribute to and participate in the industrialised societies in their country and in the global market.

Hedegaard's teaching experiment also involved learners understanding concepts within a larger context. In essence, understanding of concepts in terms of a larger context involves the kind of learning that proceeds from the bigger picture of the object to its parts. For example, when teaching about a proper noun, teaching should start from the knowledge of all nouns before it focuses specifically on the proper noun as such. This enables the learner to understand the concept of a proper noun from a bigger context of the concepts of nouns. This kind of teaching involves use of complete models to facilitate the understanding of concepts from the bigger picture. Hedegaard's report showed how she helped children to understand the concepts of evolution and adaptation by means of facilitating the children's use of their own models. The use of model involves a complete representation of an object or concept. Hedegaard (1990) argues that:

...the children's capacities for modelling knowledge must be developed so that the models can become tools for analysing the diversity of problems encountered in the world they live in

This means that the model becomes a tool that a learner uses to understand the concept from within a wider context, subsequently moving on to the finer details. This enables both the generic and specific aspects of an object or concept to be understood by the learner. Generality can then be applied in the learning and classification of related concepts. This enables the learners to transfer knowledge within a learning area or from one learning area to the other.

Understanding concepts in parts in order to build the whole result in distortions in the learning process. Muthivhi (2008) observed such a distortion in a classroom teaching and learning practice in a Grade One in Venda. The teacher was using a teaching strategy which involved the teaching of nouns as discrete 'parts of speech'. In this teaching approach learners were not able to distinguish between proper nouns and common nouns. Thus from

this experience it can be concluded that effective teaching and learning should proceed from the general to the specific, utilising models in the process.

Besides developing generality of concepts Ratner (1991, p. 34) argued that the use of models helps in the teaching of abstract thinking in learners. In explanation of this Ratner (1991) described a strategy Luria used in the teaching abstract thinking to a set of twins using a model. Luria (1978c) gave a set of identical twins detailed models of objects to duplicate from the pieces. To another set of twins (the Es) he gave the complete model from which to duplicate and to another set (the Ms) he gave only the outlines of the model. He asked them to construct a complete model from the parts. The findings showed that the twins who were given only the outlines of the model became very imaginative and creative. Later they could even improvise in the process of building a model where some parts were missing. From this use of a model, Ratner (1991, p. 34) explains that:

This experiment demonstrates that training individuals to attend to structure rather than isolated details fosters imagination, creativity, planning, analysis, self-regulation and self-control.

In other words the use of models, especially outlines, helps the learner to attain abstract-scientific functioning characterised by imaginative capabilities. Ratner understands imagination, creativity, planning, analysis, self regulation and self control as abilities that develop through the use of the outlines of a model, rather than discrete sections. In other words from this approach the learner develops generalised skills, rules, methods or psychological tools that he or she uses in solving related problems. This is supported by Kozulin (1998, p. 57) who argues that:

Acquisition of a number of skills that pose particular difficulties for primary school students can be facilitated if the paradigm of psychological tools is used. The symbolic character of psychological tools allows for generalised skills acquisition; instead of learning a particular task or operation the child acquires a general principle applicable to different tasks.

In essence, the above further suggests that teaching strategies should facilitate a kind of understanding that proceeds from the generic to the specific. Again use of models in teaching means that learners should be given a structure or a method for them to utilise in solving related problems in any of the subject domains of schooling. These theoretical insights will be useful in the analysis and discussion of the teaching approaches used in the particular school of this study, how they proceeded and whether the kind of teaching and learning taking place was useful in equipping learners with an understanding and an ability to solve related school problems.

The teaching approaches such as Galperin's use of theoretical approaches as described by Arievich & Stetsenko (2000), Hedegaard's (1990) teaching experiment and Luria's (1978c) use of the complete and incomplete model in Ratner (1991, p. 34), are illustrative models of teaching approaches that promote development in learners. They are also illustrative of how the concept of the zone of proximal development can be used in teaching and learning. In the present study, these approaches will inform an analysis of the dominant modes of teaching used and the kinds of cognitive developmental consequences of these. This will also provide substance to the recommendation that teaching and learning in the context of schooling in Zimbabwe be informed by such models since they have shown to promote cognitive development in learners, which will help them solve day to day problems in a scientific way, as expected of formal school to do in learners.

## **2.5. Conclusion**

The chapter has provided the theoretical background to the study. It is hoped that this will result in a sound theoretically informed research design, a theoretically informed analysis of data and a theoretical informed discussion of findings. It is hoped that the theoretical basis of this study will ensure that the findings are objective, reliable and valid.

The Vygotskian theory method and socio-historical theory have been outlined and discussed since they are important to provide an understanding of the dialectical nature of cognitive development and its socio-cultural and historical nature. These insights and theoretical underpinnings will inform the design of the study to ensure that relevant and useful data is generated. Thus they will play an important role in producing a sound theoretically informed research design.

The chapter has reviewed several theoretical approaches to teaching both the 'traditional' teacher-centred and 'modern' child-centred approaches in order to provide a background against which the dominant modes of teaching and learning could be examined and discussed. It is intended that this theoretical and historical background will be brought to bear in examining and discussing what the dominant modes of classroom teaching and learning were in rural Zimbabwe and what cognitive developmental consequences resulted from them. The theory on the relationship between culture, context and development has been provided in order to serve as a background against which the effects of sociocultural conditions of schooling on the practices of classroom and consequently on learners' learning and cognitive development could be examined and discussed.

Theory on teaching, learning and development was reviewed so that it could provide background against which the specific forms of classroom teaching and learning in the study could be analysed and discussed, to understand their developmental consequences on learners. Thus, the theoretical background provided in the chapter will help in addressing the research questions of the study.

The chapter also provided theories and research showing successful models of teaching in terms of facilitating learners' cognitive development. These were described with the intention of recommending their use to inform teaching and learning in the particular context of this study with the aim of influencing the improvement of teaching and learning. In conclusion

this chapter constitutes an anchor for the other chapters and presents a map for the answering of the research questions in an informed and objective way as possible.

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## **CHAPTER THREE**

### **METHODOLOGY**

#### **3. Introduction**

This chapter describes the process of carrying out the study and presents the methods used to carry out the study: how they were used and why these methods were the most appropriate to use. Thus the chapter outlines the research design process and shows how the methods used achieved the aims of the study.

The research design is informed by Vygotsky's theory of method and socio-historical theory, both of which were outlined in detail in chapter two. A qualitative approach is adopted and used in the study because it allows for an examination and understanding of teaching and learning within a particular the context. A qualitative approach is also used because it allows the actors or participants to share their experiences, perceptions and beliefs about their practice.

The study utilises the case study of ethnographic genre. A case study makes possible an in-depth understanding of context and of classroom teaching and learning taking place in a single setting. Ethnographic approaches make possible involvement and participation on the part of the researcher and the participants. Using this approach will make sourcing data from both the socio-cultural context and from the classroom teaching and learning possible.

Data is generated mainly through observation and interview. The focus for the data collection process is mainly guided by the research questions of the study namely: What are the dominant modes of classroom teaching and learning? And the second research question: How do the socio-cultural conditions affect the practices of classroom teaching and learning and learners' cognitive development? Thus observation enables the sourcing of data on the modes of classroom teaching and learning in the school, the political and economic

conditions and cultural traditions present in schooling. The interview method is used to follow up the observations and enables the sourcing of data that clarifies teachers' perceptions and beliefs about their teaching and clarification on the conditions of schooling and the cultural traditions present in schooling, and thus supplements data sourced through observation.

The chapter also outlines the method of analysis of data. The data is analysed using thematic approach. Through rigorous categorising and re-categorising of data at four levels, four major themes emerged: conditions of schooling, the influence of culture, classroom teaching and learning and the consequences of teaching and learning. These themes will be further analysed in chapter four. The method of analysis will describe, interpret and explain causal relationships<sup>13</sup>. A detailed description will be provided under each theme and these themes will be analysed in chapter four. Theoretical insights will then be used to inform and illuminate the analysis of each theme. Certain causal relationships will emerge in the course of a discussion of the findings in chapter five. The theoretical background given in chapter two will be used to explain the findings of the study. This will be focussed on the research question of the study: What are the cognitive developmental consequences that result from the specific forms of classroom teaching and learning that dominate schooling in rural Zimbabwe? Thus the methods of the data collecting process and the method of its analysis will enable to answer the research questions of the study.

### **3.1. Research design**

My research is designed around Vygotskian theory because it explains the causal-dynamic relationships. It also explains the interrelatedness and interdependence of the various

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<sup>13</sup> Causal relationships in this context mean explaining what causes the teaching and learning to be what it is and what developmental consequences will result from those specific forms of teaching. Causal relationship will emerge in chapter five when theory will be used to explain the processes of teaching and learning

elements in society<sup>14</sup>. My study seeks to understand cognitive development within the context in which it is taking place. I see this as being achieved through understanding causality and the influence of other elements on development in the specific context. The methods used to carry out the study, generate data and the method of analysis of the data have thus all been informed by Vygotsky's theory method.

I chose Vygotskian theory method to inform and underpin my research design because it provided some insight in the process of considering the certain complex underlying causes rather than merely describing issues. This means that I have to examine a range of the issues that influence teaching and learning and cognitive development as being part of the complex underlying, rather than the surface causes. Vygotsky (1978, p. 62) cautioned against neglecting to consider the underlying causes, that this omission can lead to serious error and inaccuracy because elements in the society may appear to be similar while their nature is different and may also look different when they are alike. In essence, this to me meant that, I consider other factors in the sociocultural context that had influence on teaching and learning and consequently cognitive development of learners, instead of merely describing the practices. Being in the life-world of participants for some time was the way that could facilitate gathering such data.

The design of my study was also informed by socio-historical theory. The main tenet of socio-historical theory is to explain change in development in social and historical terms. This theory informs an understanding of the process in which human beings actively transform themselves as they transform their social and natural world (Ratner, 1991, p. 2). This means that as society continues to change, so does cognitive development. This theory has influenced and informed the use of the case study as ethnographic genre, one which

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<sup>14</sup> Elements in society refer to cultural factors that are interrelated and intertwined with development and which influence it differently in different socio-cultural contexts

allowed me to participate in the life-world of the participants, to understand the historical changes that have impacted on teaching, learning and development and the ways in which these changes have influenced these processes.

### **Qualitative approach**

I adopted a qualitative approach because I intended to understand classroom teaching, learning and development in a specific context and thus a qualitative approach was most appropriate for generating such data. This approach provided the opportunity for participants to give voice to their practice, beliefs and their experiences. Thus, qualitative approach allowed for such understanding to flow from the experiences, perceptions and practice of teachers. The context factor was also addressed in the qualitative approach as participants' practice and beliefs were understood within the specific contexts which in turn provided an understanding of the contextual factors that had influenced, and were continuing to influence, classroom teaching and learning.

According to Babbie, Mouton & Provesky (2001) qualitative research provides an opportunity for social action to be understood through the voices of the social actors in a specific social context and one which cannot be generalised to other populations or social groups. Thus the actual nature of the qualitative approach made it possible for me to understand classroom teaching and learning through the actual voices of the teachers and learners which, for me, was a highly desirable aspect of the research. It also facilitated understanding of the specific context within which teaching and learning was taking place.

### **Ethnographic approach**

In order to acquire an in depth understanding of both the socio-cultural context and of the modes and effects of classroom teaching and learning I needed to get involved in the everyday activities of teaching and learning in the school and participate in the life-world of

the participants over a period of time. To achieve this I used the ethnographic approach in my study. Ethnographic approaches offered me opportunities and strategies for 'direct' experiences. The descriptions of ethnographic approaches of Mason (2002, p. 55) and Atkinson, Coffey, Delamont, Lofland & Lofland's (2001, p. 4-5) coincide in that participation and observation are features common to all these approaches and data is collected in the actual setting or social context. This approach suited the study because it offered that opportunity of participation and observation in the process of understanding both the socio-cultural context and the modes of teaching and learning.

My involvement was through participating and observing actual classroom teaching and learning as well as other activities in the school. This facilitated a more comprehensive and, above all, a first-hand experience of the conditions of schooling and their impact on classroom teaching and learning. I also participated in the conversations of teachers outside the classroom and this enabled me access to data relating to those cultural traditions that influenced schooling.

I did not have pre-prepared protocols for my participation and observation of activities in the school. I allowed data to avail anyhow and anywhere. This is a characteristic feature of ethnography borne out by Spindler and Hammond (2000, p. 24) who recommended that in this kind of approach specific hypotheses, high categories of observation, prepared lists of question or any form of pre-coding should not be applied. I did not have any pre-prepared protocols because I wanted to allow data to arise spontaneously from participants and from the setting. This made possible the generation of a significant quantity of data.

I utilised the educational ethnographic method which Spindler & Hammond (2000; 2006) described as an adaptation of an ethnographic approach to education. This method involved adapting the traditional ethnographic method to suit research trends specific to educational

settings. I adapted the approach in terms of time I was able to spend in the life-world of the participants, which was only four months.

### **Case study approach**

The case study model I used was that of a single rural school. A single rural school enabled me to work with few participants and thus to gain a deeper understanding of the issues of concern. The case study approach afforded me the opportunity to understand teaching and learning in a 'real life' context and thus provided me rich description. By engaging with participants in the context of their school and everyday life I was able to gain an understanding of the situation in its totality and this in turn led to an understanding of the causal-dynamic relationship of the socio- cultural context and development.

Stake (1995, p. 2) argued that a case study is intended to catch the complexity of a single case, coming to understand its activity within important circumstances. Stake's idea coincides with Easterby-Smith, Burgoyne & Araujo (1991, p. 27), that case studies are useful research strategies when phenomena cannot be divorced from context. These ideas influenced my use of the case study, affording an opportunity for understanding development in the context within which it was taking place. It also provided a specific focus as my data was generated from a single school and thus added depth to my study.

### **Ethics issues**

Both before I embarked on the study and during the study I was keenly aware that in working with human subjects ethical considerations are crucial. I thus negotiated access to the setting (school) through the ministry officials in the provincial offices (see appendix J) and by approaching the head of school (see appendix K). Teachers as participants signed the consent forms which included details of what the study involved and what its purpose was (see appendix L). Learners' consent was sought through their parents. For learners to participate

in photography and video recordings, parents signed consent forms on behalf of them (see appendix M). Thus, all participants who volunteered to participate in the study understood their part in the study and thus participated voluntarily. Other than signed copies of consent forms provided in the appendix, I have all other signed consent forms of all participants that volunteered to partake in the study securely kept.

I also informed the participants that their participation was voluntary and they were free to withdraw anytime they felt they no longer felt comfortable with the process. This proviso was also included in the consent forms they signed. Anonymity was safe-guarded through the use of pseudonyms. I kept observation and interview transcripts, video clips and photographs in the strictest confidence. Data was viewed by me and the supervisor only. I did not experience any ethical breach during the research process. This was because I complied with Mason's (2002, p. 79) proposition that qualitative research emphasise the importance of operating a moral research practice by acting in a principled way in gaining access to the setting and throughout the study.

### **3.2. Methods of generating data**

#### **Observation**

##### **Preliminary observation**

I did a preliminary observation at the beginning of the year in February 2010, with the objective of experiencing the tone of the school and how the classroom teaching was generally conducted and the kind of learning taking place. During the preliminary observation I observed lessons in Grade One, Three, Four and Five. Teachers of these classes volunteered to be observed. I sat at the back of the classrooms and observed the ways in which teaching and learning was taking place. Most lessons I observed were of thirty minutes duration.

## **Main observation**

My main observation took place over a period in the middle of the school year and was for three months, from August, September and October in 2010. There was however, an interruption in August because schools closed for holidays. I observed lessons in one Grade One class, in both classes of Grade Two (A and B), and both classes of Grade Seven (A and B). The teachers of these classes had again volunteered to be observed. Thus, in both the preliminary and main observations Grade One to Seven classes were observed with the exception of the Grade Six classes. Teachers for these classes did not volunteer to be observed and thus were not observed. I again sat at the back of the classrooms and observed how teaching and learning was taking place. Observation took place in the morning and after break-time, from 10am. I observed in the classroom as long as the teachers taught which was usually a thirty minute period.

The exception to this pattern was the observation of the Grade Two A class. The teacher allowed me to be in her class for two weeks. This teacher volunteered for this in response to my request that I needed longer time in one class to acquire a deeper understanding in terms of how lessons flowed from one to the other. I also needed to observe the nature of the learners' response to teaching and learning activity over a longer period. I spent four hours, from 8am to 12am continuously, in this class for a period of two weeks during the month of September. I observed a number of lessons in this class that included the teaching of reading and writing.

In different classrooms, I observed how the lessons were organised, how the teachers and learners interacted, how teachers taught and how learners responded. This involved looking at how the teachers planned for their lessons, how they presented their lessons to learners and what learning aids they used in their teaching. This also involved observing how learners

participated in the lessons, how they answered questions and what was the teacher-learner relationships manifested during the learning process. Observation also involved looking at how learners were organised for group work and how they worked in their groups, what written work was given to learners individually and in groups and how textbooks and other resources were utilised.

My observation also involved the reviewing of documents. I reviewed school official documents such as policy documents, circulars, syllabuses and classroom records of those teachers who volunteered to have their records reviewed. In the process of reviewing the documents I looked at what the policy documents stated in terms of the aims and objectives in syllabuses and the subject content-matter for different grades. I looked at the content of circulars sent to the school by the ministry of education. In teachers' records I looked at how they prepared for teaching and learning and how this linked with the syllabuses and curriculum statements. I also looked at other records which teachers kept such as registers, progress records, mark lists and child study record, a record where the learners' behaviour tendencies and how they were developing emotionally and socially were described. I looked in detail at the contents of each record and how it was recorded. Each Thursday afternoon I recorded all the data that I had generated from documents as field notes as there was no afternoon activity, thus allowing me time to work with documents. This observation procedure enabled me to gather data on curriculum prescription, learner absenteeism, learners' performance in tests and how teachers utilised the syllabuses in their teaching and I use this data to supplement my classroom observation.

### **Outside classroom observation**

Outside the classroom I observed and recorded all the factors that could have an impact on teaching and learning. I recorded daily routines, how teachers and learners related to each

other outside the classroom, teachers' informal conversations, what behaviours were repetitive, what languages were used outside the classroom, how teachers and learners used time, what resources, as textbooks, globes, maps and audiovisual equipment were there inside the classrooms and how they were utilised, what the community values and morals were and how these were demonstrated in the school and in the classroom and other things of significance and interest to the study.

I recorded all events of significance every time I was able to observe these, or they were brought to my notice. For example, after participating in an event or conversation, I would record it as part of my field notes if it had significance for or bearing on the teaching and learning taking place in the school. I also recorded on a daily basis the daily routines and repetitive behaviours during the main observation period. This provided me with the data on the prevalent patterns of behaviours of learners and teachers. This was important and relevant for understanding teaching and learning.

My observation outside the classroom also involved participation in the activities of the school in order to better understand the life-world of teachers and learners. I participated in conversations outside of the classroom, for example when teachers sat under the tree and discussed issues. Here the issues they discussed most frequently involved the economic crisis and how it had affected and was affecting them, community related issues and the discipline of learners, stressing the importance of corporal punishment as a way of disciplining learners. These conversations took place on Fridays when learners did general cleaning of the school. My participation involved listening to such conversations and joining in through asking questions. I asked questions when issues relating to the social organisation of the community, the economic crisis and the disciplining of learners were raised. After such participation, I recorded as field-notes those parts of the teachers' conversations which were of significance for teaching and learning. These included community values, morals, opinions and statements

about the economic crisis, and the punishment of learners through corporal punishment I had picked in the course of informal conversations. This enabled me to gather data on the organisation of the wider society as well as the effects of the economic crisis that teachers, parents and learners were experiencing. My participations in these informal conversations also enabled me to generate data on prevalent perceptions of and attitudes to corporal punishment in the school and in the community.

I also attended the school and the parents meetings that were conducted twice during the observation period. The first meeting I attended was during my preliminary observation period. The meeting was held in one of the classrooms in the afternoon and was about an hour's duration. Discussion concerned learners not attending school because teachers were refusing to teach at that time because of low salaries paid to them by government. In this meeting parents resolved to pay teachers US\$2 every month to supplement their government salaries. Teachers then agreed to return to teaching. Participation in this meeting enabled me to gather data on the specific school related economic conditions and their impact on schooling.

The second meeting I attended was during the main observation period in October. The meeting was again held in one of the classrooms after break from 10am. The meeting was again about parents supplementing teachers' salaries. In this meeting parents were complaining about teachers sending their children home because they had not paid the US\$2 the parents had undertaken to pay. Parents were arguing that they were not the employers of the teachers and hence were not obligated to pay them. The teachers' argument was that supplementing salaries by parents was a government initiative which all parents were doing in all schools and that these parents were not exempt from honouring that undertaking. My participation in this meeting enabled me to gather data on the souring of school-community relations due to the requirement that parents supplement teachers' salaries.

I also attended a function to acknowledge and celebrate donations made to the school by the United Nation Children's Fund (UNICEF). The donations were in the form of play materials for the Grade Zero classes in the school. Parents came in numbers to view and celebrate this donation and I joined in the celebrations. I generated data on the provision by UNICEF of support for teaching and learning in the school.

## **Interview**

I used interviews as a follow up to observation and as a means of clarifying issues relating to teaching and learning and to the socio-cultural context. This was based on the idea that the interview method lends greater depth to a study because it provides greater clarity (Cohen & Manion, 1984, p. 242). Silverman (2001) suggested that interviewers should ask themselves whether the interview data had really helped in answering the research question. I considered that data from interviews would be valuable to the process of answering the research questions in my study. Interviews would supplement my observation data on issues of teaching and learning and on the socio-cultural context.

I conducted interviews with Grade One, both classes of Grade Two (A and B), Grade Three, Grade Four, Grade Five, and both classes of Grade Seven (A and B) teachers. I chose to interview these teachers because I had observed them teach and had issues arising from their teaching which I wished to follow up on. I again interviewed these teachers in the context of the different posts and responsibilities they held in school. I posed questions which were specific to the context of their responsibilities in the school as they would answer those questions better than any other teacher. For example the question of the prevalent absenteeism in the lower grades was posed to the Grade One teacher because she was the teacher in charge of learners in the lower grades.

I used a one to one type of interview. I chose to use this type of interview because participants are more open to giving their views when they were alone as individuals than

they would be if they had been in a group (Mason, 2002). This enabled me to gather rich data from participants as a result of being able to clarify certain issues that had not been made explicit and I had not fully understood them.

My interview questions were open-ended. I used open ended questions as I considered them to be the most effective way of gaining a deeper understanding of people's experiences of certain phenomena (Silverman, 2001) and they are also flexible and allow for further probing (Cohen and Manion, 1984, p. 247). I first asked open-ended questions on issues that emerged from the lessons (teaching and learning) I had observed. I also asked questions on specific issues relating to the school's socio-cultural context which I needed clarified. I thus asked different teachers different questions about the teaching and learning which had taken place in their particular classes depending on the lesson that I had observed. These questions were seeking to clarify and expand on the teachers' views as to why they taught in the way they did and their beliefs on how teaching and learning should be conducted in terms of effective learning taking place. Questions asked in interviews of different teachers generally sought to gain clarification on their views on parents supplementing teachers' salaries, the conditions of their work, corporal punishment and learner discipline. These common questions enabled me to generate data on the socio-cultural context and its influence on teaching and learning.

The interviews that were important in generating data that related in a specific way to the research questions of the study were those with the Grade One, Grade Two (A), Grade Five and Grade Seven (B) teachers. Interviews with these teachers yielded data that related to modes of teaching and learning in the school, the impact of political and economic conditions on schooling, cultural traditions influences on schooling and the negative impacts of all of these on learners' cognitive development. This data was relevant to addressing the research questions of the study. Extracts from those interviews will be used as evidence in the analysis of themes that emerged from the data in chapter four.

## **Recording of data**

To record my data, I used audio-tapping, video recording, photographing and field notes. The process of teaching and learning was recorded in a narrative format. The events were reproduced in much the same way as they occurred as field-notes and video-clips. Interviews were audio-recorded and scenes of significance and interest to the study were photographed. I intended these different forms of recording to supplement each other. The idea of using mechanical recording was influenced by Breakwell, Hammond & Fife-Shaw (1995) who were of the opinion that the use of mechanical methods for recording data reduces both researcher and participant bias. In addition as a teacher also, I could bring my own experiences of teaching into the study. Thus, use of mechanical recording produced data in the form of events as they were, thus reducing the risk of research biases in the recording of data.

## **Data transcription, coding and categorisation**

I transcribed all data and organised it into index files. Transcription involved turning all data into word description. Thus I turned all visual images such as photographs and video clips into text. I organised all transcribed data according to its source and type. I put all interviews, all field notes, all observations, all videos and all photograph data in indexed files.

The next stage in the process involved the coding of data. I labelled all related descriptions, patterns, relationships or related data extracts (verbatim quotes) by codes. Short phrases, words and ideas were written in the margins of the transcripts following the way in which I read my data. Codes included descriptive and inferential codes. Descriptive codes were actual words or phrases from participants and inferential codes had meanings attached to them. For example, when the descriptive code was 'away from school to attend workshop' the meaning attached to this was absenteeism. After I had coded all of the data, I arranged the data according to files for further reading and categorisation.

In order to have manageable data, I had to re-read my data for further categorisation at four levels, using the thematic approach. This idea was influenced by Creswell (2008): similar codes aggregated together form a major idea in the data base. I thus used the thematic analysis to reduce data and assemble it into manageable categories. My aim was to have major themes emerging from data, which I could analyse in the next chapter. The second level of categorisation was informed by my focus for the study. My focus was to understand cognitive development as influenced by teaching and learning and by the socio-cultural context. Thus, as I read my data in terms of the second level, I identified commonalities and differences that recurred in the data. In the process of identifying these commonalities and differences, I found that what recurred most often had to do with factors that limited effective teaching and learning and schooling. Since the socio-cultural context was my focus, I grouped all the recurring data that belonged together under the category of minor themes. I collapsed these minor themes together into one major the category which I tagged as 'conditions of schooling'. As I proceeded to reread the data with the socio-cultural context in mind, patterns of data that related to social factors and cultural traditions recurred from the category of 'conditions to schooling'. I had to remove such patterns and re-group them in their own category which I tagged as 'influence of culture'. As I reread my data on the second level, patterns that had commonalities in classroom teaching and learning recurred. I grouped these together and tagged this as 'classroom teaching and learning'.

Since my main focus was to understand causality of development within the teaching and learning and socio-cultural context, my third level categorisation involved reading my data again to find patterns to do with cognitive development. Recurring patterns to do with limitations of teaching and learning emerged and I grouped them together and tagged them as 'consequences of teaching and learning'.

The fourth level of categorisation was informed by the research questions of the study. This time I read my data with the research questions at the back of my mind. I went back to the four categories that had emerged and as I read all data grouped under the categories, I found data that did not have anything to do with the research questions. I crossed it out, considering it redundant. At the end of this categorisation I had four main themes that emerged and relevant data that could be used as evidence in the analysis. I then summarised the last level of my categorisation into a table so that I could refer to it for evidence of data in my analysis in Chapter four (see Appendix N).

### **3.3. Data analysis**

My method of analysis was influenced by the ideas of Cohen, Manion & Morrison (2007, p. 461) that the researcher should take into account the “fitness for purpose”. In essence, the method of data analysis depends on what one wants the analysis to do. I wanted my analysis to describe, interpret and explain causality. I thus used Geertz’s (1973b) idea of ‘thin and thick description’. The idea is that analysis at the first level should involve mere description of data as generated from context. At the second level, analysis should involve a theoretical interpretation of data. This gives data a structure that is comprehensive and that could be universally understood from the theoretical perspective. The same idea is also proposed by Spindler & Hammond (2000) as an ‘emic and etic structure’.

To achieve this kind of analysis, in the next chapter I will give an interpretive statement to give focus to my analysis after which, I will describe the experiences in detail providing evidence of data under each of the four themes that emerged. After describing the experiences in detail, I will then present a theoretical informed interpretation. This will give my analysis the descriptive and interpretive nature that Spindler and Hammond (2000) and

Geertz (1973b) respectively refer to as, an emic and etic structure and will provide both a 'thin' and 'thick' description of the analysis.

An explanation of causality will emerge as I discuss the findings of the study in chapter five. Findings of the study from chapter four will be discussed under the headings of the research questions. Theory will be used to illuminate the discussion and explanation of the findings of the study. This will ensure that the subjective data is informed by a theory of cultural psychology to enhance the scientific status, comprehensiveness, objectivity, and validity of the study, and to detect general tendencies and causal relationships (Ratner, 1997). In the process of using theory to explaining findings of the study and discussing the findings against each research question of the study, causality will emerge.

### **3.4. Conclusion**

This chapter has described the research methodology used to generate the data, to analyse it and interpret and explain the findings in order ultimately to answer the research questions of the study. The research design that I followed has been outlined. I have also described the ways in which I utilised the theory method to help in the design of the study.

The research design was informed by the theory of method and socio-historical theory outlined in detail in chapter two. Reasons for using a qualitative approach in the study have been provided: allowed for an understanding of teaching and learning within the context in which it was taking place and enabled participants to share their views and beliefs about their practice which in turn provided an understanding of certain practices in the context.

Reasons have been provided for the use of case study of ethnographic genre. A case study provided in-depth understanding of context and classroom teaching and learning in a single setting. Ethnographic approaches made involvement and participation possible. Through participation I was able to source data on the conditions of schooling and cultural traditions.

This achieved understanding of both the socio-cultural context and of the practices and processes of teaching and learning.

Data was mainly generated through observation and interview. Observation as a data collecting method made possible the sourcing of data on how classroom teaching and learning was being done in the school. The interview method was used as a follow up to observation and served to supplement the data sourced through observations. It was a means of sourcing data that clarified teachers' perceptions and beliefs about their teaching, about the impact of certain conditions and the influence of culture on schooling during a specific period.

The chapter also outlined and gave reasons for using the thematic method of organisation and analysis of the data. Data was read with the focus of the study and research questions in mind. Four major themes emerged: conditions of schooling, the influence of culture, classroom teaching and learning and consequences of teaching and learning. These themes emerged as a result of repeated and continuous reading of data and the re-categorisation process.

The chapter showed how the method of analysis of data will involve description, interpretation and explanation of causal relationships. Data as evidence of each theme will be described and in other cases, presented in table format for clarity and specificity. Theoretical insights will then be used to illuminate the analysis of each theme. This method of analysis was adopted in order to describe and interpret data in chapter four. Causal relationships will emerge in the process of discussion and explanation in chapter five.

## CHAPTER FOUR

### DATA ANALYSIS

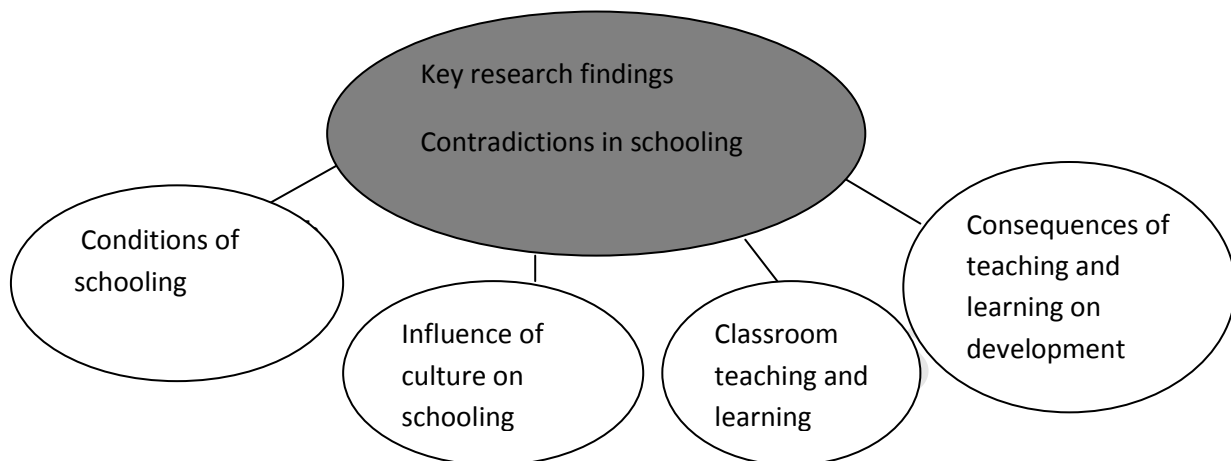
#### 4. Introduction

This chapter analyses data through articulating on the key findings of the study. The key findings of the study were contradictions in schooling, a term which derives from Marxist theory of society and history. Marx used this theory to analyse the means of production and labour in the system of capitalism and the relationship between the two. According to Marx, contradictions are experienced when there are conflicting interests amongst classes regarding the benefits of labour. According to Marxist theory, contradictions are experienced when the workers who provide their labour do not enjoy the benefits of their labour, these benefits being instead enjoyed by those who own the means of production (Haralambos & Holborn, 1991). In essence, contradictions are those ambiguities in societies arising from conflicting interests and from a situation where reality 'on the ground' conflicts with the rhetoric of vested interest. In this context, contradictions of schooling have been interpreted as the ambiguities in society and schooling, especially during the difficult period of socio-political turmoil during 2010 that enormously disrupted the schooling system in Zimbabwe.

These contradictions in schooling were influenced by certain conditions in the context of schooling that were impacting negatively on schooling. These conditions will themselves be described in detail. The ways in which these conditions resulted in contradictions through breakdown in schooling will be explored as well as the ways in which they influenced the modes of schooling, teaching and learning and their consequent impact on the learning process and on the cognitive development of learners.

Data has been used to provide evidence for those contradictions which were manifested in schooling against the major themes that emerged from the data. Major themes are those

patterns that continued to recur during the categorisation process explained in detail in chapter three. Theory has been used to inform the interpretation of data. The figure below shows the major themes that emerged from data which in turn revealed those contradictions that manifested breakdown in schooling.



**Figure 1. Themes that emerged from data**

#### **4.1. Conditions of schooling**

The focus of the analysis here is to understand the nature of the conditions of schooling in rural Zimbabwe in 2010, and the consequences these had for learners' learning and cognitive development. The conditions of schooling have been considered as the circle, the context that surrounds the school and the schooling process taking place there (Cole, 1996). According to Cole, "the context as that which surrounds" means the situation, background or environment influencing that which is at the centre. In this context, the learner is at the centre and is surrounded by the conditions that influence his or her learning and cognitive development. The study was carried out at a time when the conditions of schooling were difficult for teachers and learners and were unfavourable to effective schooling. When schooling takes place in an unfavourable context, it impacts negatively on teaching and learning and consequently on cognitive development.

The school ran from Grade Zero to Grade Seven, with fourteen teachers, a deputy head and the head of school. There were about five hundred and seventy learners. There were two academic streams (A and B) for every grade. Class sizes averaged about thirty-five to forty learners. The exception was one Grade Five class with about fifty five learners, resulting in learners being crowded in the available space.

The school had a special class which comprised seven learners ranging in age from ten to thirteen years. These learners had limitations in two specific learning areas: Mathematics and English language. The learners had been identified as special needs learners through assessment by the Schools' Psychological Services, a branch of the ministry responsible for special needs education in schools. The special class had no teacher at the time of the study. The deputy head taught the class on occasions. Most of the time however the deputy head was busy with administrative duties and the class was without a teacher. In most cases these learners would be mixed together with the Grade One learners. When these learners joined the Grade One class, they would disturb the class by beating the Grade One learners. When this happened they would be removed from the class and sent to play outside.

This situation is an indication of the breakdown of schooling resulting from lack of government support. The ministry was not able to provide support for programmes running in the school. Mixing special needs learners, aged between ten to fifteen years, together with Grade One learners of six to seven years, in one class did not promote effective teaching and learning. Sending learners to play outside instead of engaging them in learning was an instance of a contradiction in schooling. This situation could not positively influence the practice of teaching and learning, and hence learners' learning and cognitive development.

During 2010 the school was experiencing disruption and disturbances. Disruptions involved strikes and sit-ins by teachers. Conditions arising from the country's political and socio-

economic breakdown accounted for these disruptions and disturbances in the schooling system. The teachers, like all other civil servants, were striking for salary increases. The government was not able to meet their demands as a result of the economic situation in the country. Continuous strikes and “sit-ins”<sup>15</sup> by teachers resulted in a breakdown in schooling as teaching and learning time was lost. The effects of disruptions on learners’ learning and cognitive development are evidenced in a teacher’s description of his class:

They are Grade Fives by name, in reality they are not. I have children who are in Grade One, I mean by their level. I have learners who are in Grade Two. I have children who are in Grade Three. And I will say I don’t have children who are in Grade Four, because Grade Four was completely skipped. This is because of the situation there was last year. The majority here cannot write their names. Some here cannot say, “Excuse me sir, may I leave the class”. Even as I write on the chalkboard, you will find that someone cannot simply copy, he will just write the questions as they are from the board.<sup>16</sup>

The situation described above is indicative of the breakdown in schooling and the extent to which unfavourable conditions influenced teaching and learning and consequently learners’ learning and cognitive development.

### **Parents supplementing teachers’ salaries**

During 2010, the teacher-parent relationship became strained because of the ‘said government requirement’<sup>17</sup> that parents supplement teachers’ salaries. This was referred to as ‘teacher-incentive’ because this was meant to motivate teachers through parents supplementing their salaries. According to teachers at the school, this was a government initiative and all parents in Zimbabwean schools were supplementing teachers’ salaries. At this particular school, the issue of parents paying teachers came up during the time when

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<sup>15</sup> In this study, “sit-in” is used to refer to the situation when teachers are at school but they do not teach as demonstration against the government for salary increase.

<sup>16</sup> Interview with Grade Five teacher, 23 February 2010

<sup>17</sup> The ‘said government requirement’ means that it came from teachers that supplementing their salaries by parents was a government requirement, the researcher did not access a policy document about that.

teachers were on national strike during the first term of 2010. Learners had gone without schooling for weeks after schools opened. The community convened a meeting with teachers and persuaded them to go back and teach. Teachers said they would only go back if parents agreed to pay each of them 2 Zimbabwean Dollars supplement each month. Parents agreed to pay the money. Later in the year most parents were no longer paying. Teachers started sending learners whose parents had not paid back home every month end. Parents did not like this and its when relations began to sour. During teacher-parent meetings there were heated debates between teachers and parents and raised voices. This extract from an interview about teacher incentive reveals the extent to which teacher-parent relations had become strained over the issue of teacher incentive:

Some of the parents really speak badly about it, showing that they are not interested in paying. Because you find some are really able to pay but they refuse to pay, showing that they are not interested. And when we meet them, some of them say bad language to us about this.<sup>18</sup>

The situation described show that, due to the decline and subsequent collapse of the Zimbabwean economy, the government was unable to pay teachers adequate salaries. This had affected teachers' morale to the degree that their frustrations were spilling over and beginning to seriously affect their relationships with parents and learners.

### **Effect of collapsed infrastructure on schooling**

There was a total collapse of infrastructure in the area at the time which seriously affected the smooth running of the school. This revealed the extent to which existing socio-economic and political instabilities were affecting schooling and classroom teaching and learning. Although the school had a telephone, during the whole of the observation period of four months the telephone was not working. According to teachers, a communication device that connected the telephones in the area had been vandalised. It could not be replaced because the

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<sup>18</sup> Interview with Grade One teacher (teacher in charge for lower Grades), 29 September 2010

responsible authority had no funds to replace it. On the school property only teachers' residence were electrified. An electrification process to electrify classrooms had ceased long before. During the entire observation period there was no electricity. According to teachers, this lack of electricity was due to electric poles that had fallen midway between the school and the town of Gwanda. Teachers and local business people had reported this but the country's electricity supply company (ZESA) failed to respond. This was indicative of a breakdown in social services, a factor which impacted negatively on teaching and learning and consequently on learners' learning and cognitive development.

### **Effect of poverty and social problems**

The extent of the poverty conditions of resources and basic services manifested itself through the learners' lack of basic learning resources such as writing materials, shoes and uniforms. These conditions of poverty were also manifested in learners' lack of concentration as a result of hunger and malnutrition. There were other social problems such as sicknesses in the community. One teacher described the conditions prevalent in schooling for years:

[...] It's been years now, with nothing good. There are economic hardships. Some eat once a day in the evening only, hard dried maize. Even as you talk, he is hungry and is not listening to you. And other social problems....! Someone left his mother lying on bed, ill. Another problem is that now it's break-time, I am going to drink water. The teacher is also hungry. Spending the day going around learners is demoralising. Even the way we teach is not the way we used to teach. Now it's different. There are a lot of factors...<sup>19</sup>

The situation described by the teacher attests to the scale of degeneration of the conditions that make teaching and learning possible. Poverty and lack of daily sustenance was also affecting teachers' performance. Teachers' ability to make a living had definitely been affected by the economic downturn that has characterised the recent political crisis in Zimbabwe. In addition the teachers may not be able to perceive the

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<sup>19</sup> Interview with Grade Five teacher, 23 February 2010

larger picture accounting for the current socio-economic difficulties and thus unintentionally place the blame for their difficulties on learners and their parents.

### **Effect of demotivation of teachers**

Teachers showed demotivation in their work. Demotivation manifested in the lack of concern for those learners who did not have learning resources. A Grade Four teacher's response to the fact that learners were not writing due to the lack of exercise books and pens was, "You should tell your parents to buy you exercise books, otherwise the term will go without you writing and you lose out". Demotivation seemed also to be linked to remuneration:

Teaching and learning is not done as it used to be. Teaching is poor because of poor salaries. We are no longer teaching as we used to do.<sup>20</sup>

A teacher openly expressed the opinion that poor salaries accounted for teachers' no longer teaching as they used to. This kind of change in the way of teaching can have an effect on learners' learning and on their cognitive development. Another teacher stated that "...the system is nothing and we just say let's get done"<sup>21</sup> When the teacher says that "the system is nothing..." this reflects the extent to which the teacher is dissatisfied with his working conditions. Deep dissatisfaction with working conditions while teachers continue to teach suggests that the teachers are 'going through the motions': teaching simply to fulfil their work obligation, with no interest in, or enthusiasm for, what they are doing. This attests to a breakdown in schooling. Demotivation of teachers affects the way they teach and this in turn affects learners' learning and cognitive development.

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<sup>20</sup> Interview with Grade One teacher, 29 September 2010

<sup>21</sup> Interview with Grade Seven A teacher, 20 September 2010

## Effect of teacher and learner absenteeism

There was high rate of absenteeism amongst both learners and teachers. A large proportion of the teaching time, teachers and learners were not at school. Teachers were mostly absent attending workshops, local events or attending to personal business such as salaries. When a teacher was not at school learners would go to other classes where there were teachers. Learners would crowd into those classes and cause a disturbance, jostling each other for places to sit (see appendix A). The table below shows the summary of teacher absenteeism during the observation period.

**Table 1. Teacher absenteeism from school during the observation period**

Month	Dates	Teachers absent and grade taught	Number of teachers absent	Duration of absence	Reason for absence
February	15-19 Feb 2010	All teachers except head of school	15	5 days	Sit-in (political disruptions)
February	22-26 Feb 2010	Deputy head, Grade Two B teacher	2	5 days	Away from school because of disruptions
February	26 Feb 2010	Grade Two B and Grade Seven B teachers	2	1 day	Private business
September	6-17 Sept 2010	Head and Grade One teacher, (teacher in charge)	2	2 weeks	ECD workshop (UNICEF)
September	13 Sept 2010	Grade Two A , Grade Seven A teachers	2	1day	Music workshop
September	14 Sept 2010	Grade One A, Grade Three B, Grade Five B and Grade Six A teachers	4	1 day	Attending a workshop at the local clinic
September	17 Sept 2010	Grade Four B, Grade Six A and Grade Two B	4	1 day	Attending Aids workshop Grade One teacher went

		teachers Grade One teacher			to represent the school in a local funeral
September	20Sept 2010  20-22 Sept 2010	All A stream teachers and deputy head  Grade Four A teacher	8	1 day  3 days	Gone to receive bank salary  Did not return from receiving salary
September	24 Sept 2010	All stream B teachers and head	8	1 day	Gone to receive bank salary
October	4-8 Oct 2010	Grade One, Two B & Seven B teachers	3	5 days	Child abuse workshop (UNICEF)
October	14-15 October 2010	Grade Two B , Seven A , Three B, Six A and Grade Three A teachers	5	2 days	Work shop on girl-child (UNICEF)
October	19 Oct 2010	All A stream teachers and deputy head	8	1 day	Gone to receive bank salary
October	22 Oct 2010	All stream B teachers and the head	8	1day	Gone to receive bank salary
October	23 Oct 2010	Grade Two A and Seven A teachers	2	1 day	Representing the school at a wedding
October	26 -28 Oct	Grade One A, Five A, Six B, Seven B and the Head	5	3 days	Attending workshop

For two weeks in the month of October there was an outbreak of mumps that affected the whole school. In every class there were learners who had mumps. Learners with mumps were told to stay at home until they healed because mumps are highly infectious. Below is a summary of the number of learners in all grades who had mumps in October.

**Table 2. Learners with mumps in the month of October 2010**

Grade	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	Gr0	Special class
No of learner in class	36	37	40	42	32	35	40	37	55	45	34	36	34	32	29	7
With mumps	30	29	30	31	24	21	12	8	13	9	7	9	6	8	21	2

In total, there were two hundred and sixty-six learners with mumps out of the school enrolment of five hundred and seventy- one learners in the month of October. For an average period of not less than a week, learners with mumps were not at school. The number of learners with mumps was determined by teachers keeping a record of those they sent home because of mumps. I collected the numbers in each class and compiled a record. The record reflected that there were more learners with mumps from Grade Zero to Three. The prevalence of mumps in the lower classes may suggest a causal link with a lack of proper immunisation before schooling due to the collapse of the health system. Besides absenteeism due to mumps there was generally high rate of absenteeism amongst learners, more pronounced in Grades One, Two and Three as reflected in registers. Registers showed a general trend of learners hardly attending school in all five days in a week. This high rate of absenteeism amongst both teachers and learners clearly reflected a breakdown in schooling because of the significant amounts of teaching and learning time lost.

#### **4.2. Influence of culture on schooling**

The focus in this section is an attempt to examine the ways in which the socio-cultural conditions of schooling affected the practices of classroom teaching and learning and learners' cognitive development. Culture as a context has been compared to a rope whose fibres are intertwined with schooling (Cole, 1996). Like Cole (1996), culture was considered

a rope, because its fibres were extended into schooling and had some influence. According to the rope analogy, when culture extends and ‘intertwines’ with influences that interfere with schooling, it impacts negatively on learners’ cognitive development. When it extends influences that are positive for schooling, cognitive development is promoted and enhanced. In summary, cognitive development is influenced either positively or negatively by the socio-cultural context within which it takes place.

Culture in this context has been considered from the perspective of the wider organisation of the Ndebele traditional society and of child rearing practices in the community. The larger organisation of the Ndebele society emphasises respect by children for the authority of the elders. Learners’ participation in classroom activities was affected by their having been reared according to this practice.

### **Extent and frequency of learner-participation**

During observations learners sat quietly and listened to the teachers. Few learners raised their hands to answer questions. When they answered it was with a one word answer or a short phrase. Teachers accepted these and did not seek further explanation from learners. Learners only acted or responded according to teacher’s instructions. Teachers would speak throughout the lesson, presenting content, asking questions and issuing such commands to learners as “Take out your books”, “Do this and that”. The teacher’s voice in class would be heard from the beginning to end of the lesson with little or no response or interjection by learners. In some instances a teacher would ask a question and learners would not answer. When the teacher got no response from the learners she or he would supply the answer to the question her or himself.

Learners’ participation only occurred when they chorused after teachers at assemblies and in the classrooms during ‘learning’. I attended twelve assemblies which were conducted three

times a week in the mornings from quarter to eight. The whole school would repeat and recite a verse in a chorus after the teacher conducting the assembly. The teacher would read a verse from the Bible and the whole school would say it after him or her. If it was a verse that learners knew by heart, such as 'John 3 verse 16, 'God so loved the world...' learners would be asked to recite it as a school in a chorus. During the learning process in the classrooms, a teacher would say a word or phrase and ask learners to repeat it after him or her. This occurred even at Grade Seven level. Below is a summary of teachers' instructions and how the learners participated in lessons of about thirty minutes duration.

**Table 3. Teachers' instruction and learner-participation in 2010**

Date	Grade	Topic taught	No of teachers' instructions	Teaching strategy	No of one word/phrase responses	No of total lack of response	Chorus and repeating after teachers
22 Feb	4	Addition	37	Telling:16 Questions:14 Commands:7	10	4	3
23 Feb	5	Jesus' friends	31	Telling:15 Questions:10 Commands:6	7	3	3
25 Feb	3	subtraction	38	Telling:14 Questions:14 Commands:10	9	5	6
26 Feb	1	Sounds, words and sentences	21	Drill and Repetition:21	21	nil	21
20 Sept	7A	Banking	31	Questions:10 Telling:14 Commands:7	6	4	3
12	7B	The human	49	Questions:21	15	9	1

Oct		heart		Telling:21 Commands:7			
18 Oct	2B	Counting back	25	Telling:12 Questions:7 Commands:6	7	nil	3
21 Oct	2A	Forgiveness	30	Telling:10 Questions:8 Commands:12	8	nil	8

It could be said that learners' lack of active participation in learning was influenced to a significant extent by the cultural traditions. The Ndebele cultural traditions governing the rearing of children influenced this behaviour. The culture of respect for authority has evolved into schooling and has influenced the learners' behaviour in schooling. Learners saw their teachers as elders and as figures of authority who should be respected. Emphasis on discipline and respect for authority created a schooling context which negatively influenced effective teaching and the way in which learners participated in the activity of learning.

Learners made a noise and played when a teacher went out of the class. When the teacher was returning they would whisper "teacher, teacher" and suddenly become quiet. This was an example of the hierarchical adult-child social relationship. This relationship transferred into the classroom in the teacher-learner relationship. This kind of 'relational mode' embodies forms of relating within a strict code of conduct such as one which dictates that a child not respond to an adult. However, this culturally prescribed classroom behaviour works against more recent teaching and learning approaches, specifically learner-centred approaches. The desired active involvement and participation of learners in their learning is in this case interfered with negatively by cultural behaviour norms.

The Grade One, Grade Two A and B, Grades Three, Four and Five teachers carried sticks when they taught (see appendix G). In every class there was a long stick. The teachers would use it to point to work on the chalkboard or to learners when they nominated them to supply an answer. In instances where the stick was not used, it lay on the teacher's table. This practice reflected the organisation of the wider social context and symbolised authority. Symbolisation of authority involved the person 'in authority' holding or bearing something like a stick or knobkerrie in the community.

When a teacher carried a stick in the classroom, it could also indicate a relationship between the use of a stick for corporal punishment in the past and the present resemblance of this to an object symbolic of authority. The carrying of sticks by teachers and the presence of sticks in the classroom could negatively influence teaching and learning as this kind of authority limits free interaction between teachers and learners, thus inhibiting active participation of learners. This was evidenced by the restricted teacher-learner relationship manifesting more in classroom learning activity than in activities outside the classroom.

### **The effect of corporal punishment on learning**

The most common form of punishment in the school was corporal punishment. Both boys and girls were beaten. There was no difference between boys and girls in the way in which corporal punishment was meted out. Corporal punishment was used on learners in the playing fields, in the garden and in classrooms and was not recorded. The Grade Seven B teacher admitted using corporal punishment to discipline learners. The response of a Grade Five teacher when asked about corporal punishment:

No, corporal punishment still exists. Of course it varies from one station to another. I once read sometime from the newspaper where a teacher beat up and wounded a learner. It was a court case. So that's an indication that no, that thing still exists. And will exist; it will exist for some time. I don't see it ending soon myself. The other thing is that it originates from our culture. In our traditional

culture there is that belief that if the child is not understanding, then someone... (Demonstrating beating), he will understand. Not this white-man's culture. In our traditional culture children respect elderly people. So what I am saying is that our traditional culture has some influence also.<sup>22</sup>

Other forms of punishment were also used. These involved making learners do extra work when other learners had gone home. For example, learners who did not bring sticks for staking were beaten first and then made to remain after school staking tomatoes. Late comers sometimes remained after school to clean the toilets when other learners had gone home. However, corporal punishment was the dominant form of corporal punishment used at the school. The table below shows the incidents of corporal punishment that occurred in the school during observation, the nature of the 'misdemeanours' committed by the learners and the manner in which each beating was carried out.

**Table 4. Incidents of corporal punishment**

Date	Incident: circumstance and 'misdemeanour'	Form of corporal punishment carried out
8 Sept 2010	1. Learners from different grades came late and stood at the school gate.  2. On the same day at break time, a group of learners from different grades were late returning to class from break.	The teacher on duty was waiting at the gate with a stick. Grade Ones and Twos were sent to their classes. Other learners were beaten on their backs as they ran to their classes.  The teacher on duty again waited by the gate and beat them on their backs with a stick as they ran to their classrooms.
13 Sept 2010	Learners in Grades Four to Seven did not bring tins and sticks for staking tomatoes in the vegetable garden.	The garden master beat them with a stick.
14 Sept 2010	1. In the Grade Two A class, about a ten learners had no pencils or exercise books and sat doing nothing while the other learners were writing.	Without asking them for an explanation, the teacher accused them of not telling their parents that they did not have writing materials. They were beaten on

<sup>22</sup> Interview with Grade Five teacher, 23 February 2010

	2. On the same day, during a Home Economics lesson, about eight learners did not have the needles and plastic bags they were supposed to bring to learn stitches.	the palms of their hands with a stick  The teacher beat them with a stick and gave them books to read while the other learners practised their stitches.
17 Sept 2010	After 12 o'clock, learners from Grade Three to Grade Seven were doing general cleaning of the school. A group of about five boys from the middle classes dodged general cleaning and were found hiding behind the toilets. A prefect brought them to the teacher on duty who was sitting with other teachers under the tree.	The teacher on duty beat them on their backs with a stick
22 Sept 2010	Some Grade Four to Seven learners did not bring watering cans and sticks to stake the tomatoes in the garden.	The garden master made them stand in a line and beat both boys and girls on their backs with a stick.
4 Oct 2010	In the Grade Two A class once more, learners had a writing lesson.	The teacher moved around with a stick. Those who, according to her, were writing badly, or did not write corrections first and those who did not leave the correct spaces in their work, were all accused and beaten.

In the social and cultural context of the school corporal punishment is used by adults as a way of disciplining children. In the society of which the teachers and learners are members, the adults and figures of authority in the community have the unquestioned right to inflict corporal punishment on children as a way of disciplining them. In interviews the teachers attested to the continuing existence of corporal punishment and that it will continue to exist in schooling because its origin and rationale are “cultural”, part of the system of cultural traditions. However it can be said that the use of corporal punishment in schooling could have a negative impact on the free flow of ideas and on learners’ desire to ask questions and to discover knowledge. The emotional impact of corporal punishment might also damage

teacher-learner relations and impede any possible positive learning opportunities that the classroom context should provide for learners, especially with regard to opportunities for exploratory and enquiry-based learning activities. It may therefore not be surprising that the speech forms of learners found during observations to characterise the teaching and learning interactions, were so restricted and being limited to short and usually one word answers to teachers' questions. Teachers' questions were sometimes met with total silence, indicating that learners felt the answers they could attempt might not be deemed correct by the teachers, and might also result in corporal punishment.

### 4.3. Classroom teaching and learning

The focus in this section is on a detailed description of the classroom practices that have been selected to be representative, under the theme of classroom teaching and learning in the school. Part of the focus is the presentation of a theoretically informed interpretation to underpin and assist in the understanding of the nature of the dominant modes of classroom teaching and learning and assisting in pinpointing the developmental consequences of these.

#### 'Concrete' and 'empirical' reading activity in Grade One

Date: 26 February 2010

During my preliminary observations I visited a Grade One class. The teacher was presenting an English reading lesson. The lesson was conducted in both Ndebele and English. "Today we are going to read words beginning with letters, Cc and Tt..." On the board the letters and words were written as in the figure below:

Cc	Cc	Tt	Tt
Table	Car	Tree	Cow
Tin	Cup	Cat	

## Figure 2. Consonant sounds and words

The teacher pointed to different objects in the classroom as a chair, a table, a window, and learners identified each of them in a sentence, "This is a chair..."; "This is a table...." After identifying familiar objects in class according to their English names, the teacher pointed to the letters on the board, enunciated them loudly to the learners who then chorused the sounds after her.

The teacher did not use the learners' existing linguistic competence in Ndebele to teach the names of the objects in class. The lesson seemed to emphasise rote acquisition of the consonants and the associated words in English. This was because there was no practice of making explicit use of learners' existing linguistic competence in Ndebele to introduce phonic reading of words meaning in English.

The teacher had flash cards on which the words 'car', 'cat', 'cup', 'table', 'tin' and 'tree' were written. After enunciating the words, emphasising the first letter of each word, the teacher flashed the word 'cup' at the learners and asked them to find the matching letter on the board. Some learners raised their hands to match the words with the letters. One learner was nominated to do the matching and she did it correctly. It was the same with all the words with C/c and T/t sounds. In instances where learners failed to match the words and letters correctly the teacher would allow time for learners to correct themselves.

After matching word to letter on a flash card and on the board, learners were instructed to match words with pictures that were also drawn on the board. A learner would pick a word such as 'car' and match it with the picture of a 'car' on the board. When the learner had correctly matched the word to the picture, the teacher would say the sentence, "This is a car." and learner would repeat the sentence after the teacher.

This approach assumes that these learners would not understand, or guess the meanings of these words should they be introduced to them in the context of a meaningful text. The approach could be termed 'empirical' in the sense that it emphasises the empirical observation of objects the words refer to, through association of the word and the picture illustrating the object the word refers to.

After this matching exercise learners were asked to pick the same words from a pile of words on the table and to read them in their groups. The teacher went around listening to learners as they read the words in their groups. Learners who had difficulties were helped by the teacher as she moved around. The assistance she offered took the form of asking learners to re-do the matching exercise on the flash card and on the board.

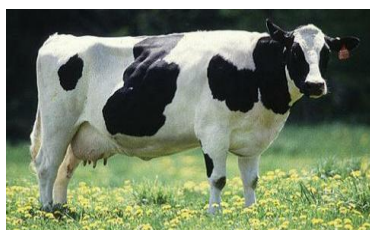
The teacher moved on and wrote sentences like, "This is a car", "This is a tin", and "This is a tree" under the pictures, as in figure 3 below. The teacher then read the sentence, "This is a car". Learners with the word "car" went to the board to stick the word under the picture of a "car" and then read the sentence. This process continued with all the words. The group with the word "tin" had problems in matching and reading the sentence, "This is a tin". They would just place the word under any picture and when told that the word did not apply to a picture, they would make a guess and again place it incorrectly. The teacher discouraged them from this and asked them to take their time and to help each other match the words correctly and to read the sentence. Learners in this group finally matched the word correctly and read the sentence. This exercise was repeated, this time with groups exchanging words.

This approach did not engage learners in meaningful learning but instead in some externally-based associative activity which emphasised the external appearance of things out of a meaningful context. Learners' recall of words came through associating objects and words represented on flash cards. The teacher did not engage learners in genuine conversational

discourse where learners could learn new language in a way which was meaningful to them, such as relating new words to their existing “mother-tongue” vocabulary or using the words and sentences in the context meaningful to the learners and their everyday lives.



This is a tree



This is a cow



This is a cat



This is a tin

### Figure 1. Matching sentences to pictures

The teacher concluded the lesson by enunciating the same words again loudly from the chalkboard with learners chorusing the words after her. She also read the sentences and learners chorused these after her. After that she flashed the same words on flash cards at learners and learners had to read each one as a class. Most of the words were read correctly. The Grade One learners showed a lot of enthusiasm during this lesson. They seemed to respond well to the activities of the lesson as they chanted consonants and read, or repeated words and sentences after the teacher and on their own.

However, though the approach appeared to help the learners to read words on their own, this ‘reading’ was through ‘external association’ which may be considered by more recent reading development theorists, to be a more ‘primitive’<sup>23</sup> form of reading development and acquisition of reading vocabulary. The teacher reiterates words or sentences and invokes the learners to repeat after her so they commit the words or sentences to memory. This suggests that the assessment of ‘knowledge’ acquired from such an activity would require recall of the same information. This is consistent with empirical modes of teaching and learning which

<sup>23</sup> ‘Primitive’ form of reading has been used to refer to a reading approach that may be considered by more recent reading development theorist as the naive style characterised by simplicity

assume knowledge to be static and accessible through observation and language in a direct manner and therefore requiring little internal reconstruction.

### **Contradictions in ‘moral’ education lesson**

Date: 21 October 2010

The teaching observed at the school emphasised ‘concrete’ and ‘empirical’<sup>24</sup> approaches. Such approaches do not foster rational and logical reasoning skills, and therefore does not encourage or cultivate independent rational decision-making skills in learners. The lesson on moral instruction illustrates the inherent contradictory nature of the teaching approach which has simple content as its object of learning.

The lesson was taught in both the English and Ndebele languages. The teacher began the lesson by saying: “Let’s get to our lesson, religious and moral education. Last week we learnt and memorised Leviticus 19 verse 11. What does it say?” Learners raised their hands and when a learner was nominated he said, “Do not cheat, steal or lie”. The teacher asked learners to say the verse again as a class and the learners chorused it. The teacher went on to ask learners what cheating means. A learner answered that it means swindling. The teacher did not comment but continued and asked what stealing means. The learner gave the same word as stealing in vernacular *ukuntshontsha*. Again the teacher did not comment and went to the board and wrote “hyna” for “hyena” with a wrong spelling. She asked the learners to say, “Hyena” after her and the learners did.

On the board were pictures of a hare and a baboon. The teacher asked learners which one was a hare and which one was a baboon. Nominated learners went to the board and pointed with a stick to the hare and to the baboon respectively. The teacher asked which of the two animals

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<sup>24</sup> ‘Concrete’ and ‘empirical’ approaches in this context refer to the teaching and learning practice that is inclined towards learners doing and having direct practical experiences to understand concepts. The kind of learning also proceeds from the learners’ everyday experiences of concepts and uses it as prior knowledge on which to build new school specific knowledge

was the clever. A learner answered that it was hare. The teacher proceeded to tell the story of the hare and the baboon. She did not mention a hyena in her story. She read the story from the teacher's guide from the ministry in English and explained it to the learners by literally translating it in Ndebele:

Hare was stealing from baboon's field. Every morning baboon and his family would find their maize eaten. Baboon ended up making up a sticky figurine and put it in his field. Hare thought it was a human being and he started insulting and beating the figurine up. Because it was sticky, hare was caught and baboon found him the following morning. Baboon and his family beat the hare and afterwards let him to go.

When the teacher had finished telling the story she asked learners what they would do if someone stole from them. One learner said he would kill him. There was murmur from other learners at this response. Another learner who was nominated said he would poison him. The class burst into laughter and there was some murmur at the response.

The teacher proceeded to write the word 'thief' on the board and asked the learners to repeat the word after her. Calling two learners to the front she said to one, "You are the figurine", to the other. "You are the hare", and proceeded to ask the class, "What will hare do to the figurine?" The class chorused, "Beat!" The teacher said, "Yes, beat him, let's see!" The learner was shy and did not beat the learner playing the part of the hare.

Another group of learners were called to the front to represent the baboon's family. The learners were asked to demonstrate what the baboons would do to the hare. The group of learners shyly pretended to beat up the learner who was playing the part of the hare. The teacher and rest of the learners laughed at this. The teacher then asked learners what lesson the story teaches. One learner said it teaches a lesson about the hare. The other learner said it teaches a lesson about the baboon. The teacher corrected them, saying that the story teaches

about forgiveness. The baboons let the hare go after beating him, meaning that they forgave him. The teacher then told learners that they should forgive others also.

Here, learners were focussing on the facts of the story, the empirical aspect of what they had learned. They did not focus on the moral lesson they could learn from the story through rational, deductive methods. There were also other life lessons that could be learnt from the story which the teacher limited by prescribing only one interpretation of the story. For example, the cleverness of the baboons when they made the figurine to catch the hare could be one other interpretation. Since opportunity was not given for different interpretations by learners, they did not learn anything from the activity. Neither did they develop logical, deductive skills in the processes of making sense of a classroom narrative. In essence, it could reasonably be concluded from the way in which the lesson was presented that the learners learned very little about logical reasoning and abstracting meaning from a narrative.

The teacher also used dramatisation to help learners understand the story. Dramatisation seems to be a cultural mode of moral teaching which is consistent with modelling, storytelling which incorporates dramatisation being a dominant approach to certain traditional African forms of the socialisation and moral education of children. However, although learners dramatised the story and seemed to enjoy doing so, this did not help them to understand the lesson the story carried. Neither did dramatisation of the story help learners to interpret the story because there were other interpretations that were possible. Thus, the teacher's approach, one that emphasised seeing, acting out, drill and repetition of facts, which are characteristic of empirical approaches to teaching, failed to provide learners with a way of understanding the theme and moral of the story, which was what the teacher wanted. Thus, the learners' response that the story was simply about the baboon was about the hare, demonstrated the knowledge and concepts they acquire through the approach that

emphasises memorisation of facts and rote repetition of ideas, without providing an opportunity to learners to venture their opinions or alternative interpretations of, or for the development of learners' deductive reasoning skills.

In addition one could say that the lesson started off as a 'moral' lesson but ended up as a comprehension lesson where learners could only recall facts about the hare and the baboon. The teacher wanted learners to understand the importance of forgiving. The teacher however made a serious error in that the moral lesson of forgiveness could not be reasonably abstracted from the story. For, example, that there was corporal punishment before hare could be forgiven, makes the moral aspect of forgiveness difficult to deduce. Thus, there seemed to be a contradiction between the moral of the story and the proposed resolution, namely that the lesson to be learnt was forgiveness.

### **The use of the 'telling' method in Bible studies**

Date: 23 February 2010

The lesson on the story of Jesus and his disciples is illustrative of the "the telling method" that characterised classroom teaching and learning in the lessons observed. Following this method the teacher told learners everything which he assumed they did not know, including the answers he needed them to give later on during the 'testing' part of the lesson.

The Grade Five teacher presented a lesson about 'Jesus' friends'. On the board was a clock with the first letters of the names of the twelve disciples arranged around the clock, opposite each number of the clock face. The teacher introduced the lesson by asking learners to tell him who their friends were. When each individual learner had stated who his or her friend was, the teacher proceeded to tell the learners that the topic for that day was Jesus' friends. He asked learners to state who Jesus' friends were. Using the clock, the learners named Jesus friends. A nominated learner would give the name correctly or incorrectly. When an incorrect

name was given several attempts at guessing the name were made until the correct name was supplied by the learner. When the guessing attempts failed, the teacher told learners the correct name.

After that, the teacher asked learners to identify those amongst the twelve who wrote about Jesus' life. In the same manner as in naming the twelve disciples, nominated learners would give the name correctly or wrongly. When a wrong name was given others would make attempts at guessing until a correct name was given. If not, the teacher would tell them the correct name. The teacher proceeded to tell learners that the books these 'friends' of Jesus wrote were called gospels and he wrote the word 'gospel' on the chalkboard. He then proceeded to tell the learners that anyone who did not like Jesus would not have written good things about him. Thus, those who wrote about Jesus must have been his friends. He asked learners if their friends would write badly about them. In response learners chorused, "No!"

The teacher went on to ask whether learners had bibles in their homes. A few learners raised their hands to indicate that they did have bibles at home. The teacher asked learners to bring a verse written by one of Jesus' friends for the next lesson. The teacher proceeded to ask the learners whether anyone had a verse about Jesus. A learner indicated by a hand and gave a verse that, "Jesus wept". The teacher was pleased with this answer and told the class that this was the shortest verse in the Bible. He asked for more verses but no other learners responded. He went on to ask learners where the verse, "Jesus wept" was found in the Bible. Again there was no response from the learners. The teacher then told them that it was in the gospel of John.

After that, the teacher gave the learners five simple sentences to answer. Three of the questions were of the 'fill-in' type, one 'how many?' question type and one 'who?' question type (see appendix B). The answers to these questions were provided on the chalkboard

before the learners had attempted to answer them. The teacher read the questions for the learners and learners chorused after him as a class. They answered the questions together before the learners could write the work in their exercise books.

The emphasis of this teaching method was on the transmission of facts, on drilling and repetition, in order for learners to recall content with no opportunity provided for them to understand the import of the lesson. This appeared to be the dominant approach to school teaching and learning in this school. In addition, the fact that the teacher gave learners a task and wrote the answers on the board and drilled learners on the answers before asking them to write, or think about the answers, indicates the teacher's low expectation of his learners. The learners' task in the lesson was only to remember which answer went with which question when they wrote down the answers in their books. They also copied the answers from the board, so were not afforded opportunity to practise formulating sentences on their own.

A low expectation of learners was also evidenced by the teacher asking learners who their friends were, which is knowledge that has already matured in learners, evidenced by all of the learners being able to provide the names of their friends. This low expectation of learners is a characteristic trait of previous colonial teaching practices. Though the teacher explained to the researcher that learners' level of performance was low, the level at which he pegged his teaching was one which would not promote or extend learning and cognitive development.

### **The 'concrete' and 'empirical' teaching approach in a Science lesson**

Date: 12 October 2010

The Grade Seven science lesson on the human heart was a typical illustration of the 'concrete' and 'empirical' mode of classroom teaching. The teacher used the "concrete" example of a pump that learners knew from their everyday experiences in his presentation of a lesson on the human heart. The teacher introduced the lesson by telling learners that the

day's lesson was about a pump. He proceeded to tell the learners that a pump is used in everyday life when bicycles and cars have punctures. They were however going to learn about a different kind of pump, the human heart. The lesson excerpt below shows how the lesson progressed:

Teacher: [...] we are talking about a pump. Who knows what a pump is? We use it every day. You use it every day when cars have punctures, when bicycles have punctures. Who can tell me what a pump is?

Learner: (hesitating) it's a pump.

Teacher: [...] Yes it's a pump. What do you use the pump for?

Learners: (No response).

Teacher: (repeats the question) what is the pump used for?

Learner: [...] It pumps.

Teacher: Yes, what happens is that it pulls the air (demonstrating pulling with hands) and when you pump it releases the air. Today we want to talk about a different form of a pump, a natural pump called a heart. According to you, what is a heart?

Learner: [...] Heart.

Teacher: Yes, the heart is a very important pump in our bodies. It is the one that makes you get blood in your feet, in your head and every part of the body, if the heart is beating...

The lesson proceeded from the immediate, observable properties of the object and utilised the everyday experiences of learners. In essence, the lesson follows an 'empirical' approach in that it relied entirely on learners' memories, knowledge and experiences of bicycles and motor pumps as an analogy or 'concrete object', and did not proceed to elaborate on the unique functional qualities of the human heart in the human body. In other words, it was not clear what the central concept was, that the teacher needed to introduce to his learners and how this related to formal, scientific concepts they had already 'learned'. The subject matter was therefore presented as a discrete body of information which learners were expected to assimilate by rote. Such a knowledge form requires little meaningful or developmental learning and of deductive, logical thinking processes such as inquiry and exploration of the

subject matter on the part of learners. When interviewed about their teaching approaches, the same beliefs and convictions about ‘empirical’ teaching and the use of “concrete objects” in lessons came up. The view of a Grade Five teacher:

Abstraction is problematic in that in some cases the child might not know or might have not seen what you are talking about. If we use the concrete example it makes the concept to be understood quicker. So using concrete examples is just nearer building up the child.<sup>25</sup>

The Grade One teacher echoed the same sentiments:

Like I said, the teacher has to use concrete examples. Like when I am doing addition, there is this method of using the number-line. Pupils can add using the number line. I don’t like that method because pupils don’t concretise but when you use counters, they can really prove, pupils have to prove, to come out with the answers. Here is two (shows her two fingers) another two (shows other two), I come up with four (puts her fingers together). I believe in using concrete examples.<sup>26</sup>

The opinions of the two teachers here reveal that they favoured the ‘concrete’ and ‘empirical’ approaches and believed that these approaches were effective in helping learners to understand the concepts in a much easier way. The favour for ‘concrete’ and ‘empirical’ approaches to teaching evidence the kind of approaches that dominated classroom teaching and learning. However, ‘concrete’ and ‘empirical’ approaches as dominant modes of teaching and learning, by virtue of their nature, would not promote significant developmental gains in terms of learners’ cognitive development.

### **Working in groups: Limited discussion**

A situation where learners are grouped together for discussion and exploration of ideas is one of the important progressive teaching approaches recently integrated into most African educational systems (Muthivhi, 2008; 2008b). Group work is envisaged to promote effective learning through interaction of learners in groups. However, in practice, this kind of

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<sup>25</sup> Interview with Grade Five teacher, 23 February 2010

<sup>26</sup> Interview with Grade One teacher (teacher in charge of lower grades), 26 February 2010

discussion and its positive effects for learning, becomes inhibited or limited as members of the group, spend much of the discussion time giving instructions to the scribe on what to write down for reporting back to the class and ultimately for the approval of the teacher at the end of group work.

In this context the ‘group work orientation’ therefore reveals the overall, dominant modes of learning that characterise classrooms in the school, where ideas are genuinely discussed and questioned but assimilated and ‘packaged’ for reproduction with the main aim of appeasing the teacher. Learners adopt this strategy so as to demonstrate to the teacher that they have successfully learnt what they were taught, before the ‘group discussion’ time, mostly through the telling method. Below is a summary of how group work was used, as well as the extent and nature of ‘discussion’ taking place, or not taking place in the school.

**Table 5. Use of ‘group work’ and the extent of ‘discussion’**

Date	Grade	Learning Area and topic	Use of ‘group work’	Extent and/or manner of ‘discussion’ in groups
22 Feb	4	Maths, Addition	Yes	Learners whispered to the scribe.
23 Feb	5	Religious education: Jesus’ friends	No	
25 Feb	3	Maths: Subtraction	Yes	No discussion. Learners just sat in their groups when given group task to do subtraction sums. The teacher encouraged them to work, saying, “Let’s work, let’s work”
26 Feb	1	English reading: Sounds, words and sentences	Yes	In groups of threes, learners matched words with pictures and reading sentences as teacher flashed words. The teacher was in control rather than learners discussing the matching.

20Sept	7A	Maths: Banking	Yes	There was no discussion. The scribe alone responded to the group task while other group members looked on.
12 Oct	7B	Science: The human heart	Yes	No discussion. The scribe alone responded to group task while other group members sat and watched. One group did not write anything.
18 Oct	2B	Maths: Counting back	Yes	Two classes were put together. Learners played and made noise during group work time. The teacher stopped them without looking at what they did and proceeded with her teaching.
21 Oct	2A	Religious Education: Forgiveness	Yes	Two groups of learners dramatised the story of baboon and hare and the rest of the learners watched. One group was shy. The other was active and did all that the teacher instructed them to do. There was however no discussion amongst learners themselves although they did the tasks in a group.

All these observed lessons but one included ‘group work’ and these groups were organised according to learners’ abilities. This was evidence that group work was extensively used in the school. However, there was minimal discussion observed during ‘group work’. Here, doing activity together, even without discussion seem to constitute what was considered as group work. Consequently, learners also did not understand what they were supposed to do during group work. In essence, the ways in which group work was organised and implemented, did not promote the kind of active involvement and discussion that group work is intended for. This shows how group work could be misinterpreted and how limited understanding in terms of the organisation and purpose of group work, can result in lost developmental opportunities for learners, especially as ‘group work’ was used extensively by teachers in the school.

In interviews teachers stated that they supported ‘child-centred’<sup>27</sup> approaches. The table below summaries the interview responses from the eight teachers interviewed on child centred approaches.

**Table 6. Interview responses from teachers on ‘child centred’ approaches**

<b>Date</b>	<b>Grade</b>	<b>Teachers’ interview responses to questions about the ‘child centred’ approach</b>
22 Feb	4	Learning is in the child. The teacher only facilitates.
23 Feb	5	Learning is within the child and the teacher’s responsibility is to chair it. But in our case we have big problems. If you look at these children, it’s a Grade Five but in reality it’s not.
25 Feb	3	Learning is the duty of both the teacher and the child. The teacher must know the level of the child and help him from there.
26 Feb	1	I have to use the methods that involve the pupil 100%. Pupils really need to take part.
20 Sept	7A	The teacher is actually the guide. But what is happening here is that we actual deliver to pupils.
12 Oct	7B	Child centred is more appropriate...unlike just lecturing because pupils will not grasp the concepts. There are situations where child-centred approaches do not apply, like basically, lack of resources. In that case I resort to lecturing.
18 Oct	2B	I believe that learning should involve the children more. The problem with our children here is that they have lost a lot and really need the teacher’s assistance. They cannot do anything on their own.
21 Oct	2A	I believe in the child-approach; if you give a child a problem, he can master the skills.

Of the eight teachers interviewed, seven responses indicate a belief in ‘child centred’ approaches. Limitations to using this approach, such as lack of resources and low level performance, were however cited by three teachers as preventing the use of the approach.

<sup>27</sup> ‘Child-centred’ approaches in this context refers to the more recent approaches to teaching in which learners are actively involved in constructing knowledge while the teacher acts as guide or facilitator

Though teachers stated that they believed in ‘child-centred’ approaches, in practice learners were less involved in the learning activities as Table 3 shows in a summary of learner participation in lessons. Learners were involved in the teaching and learning process only when they answered questions, repeated after teachers and, in a few cases, when they were given ‘group’ tasks to do. There exists a contradiction when teachers affect to believe in a certain approach but do not implement it. The reason for this could be that the teachers were not fully cognisant with what child-centred approaches entail, that when they involved learners in what they thought of as group work, they have used ‘child-centred’ approaches in their teaching.

### **Language of teaching and learning**

The issue of the language of teaching and learning has been the subject of a long standing debate in many different socio-cultural contexts and remains an ongoing debate. In the context of rural South Africa teachers have been found to revert to the home language spoken by the majority learners in order to help learners in the conceptualisation process. Teachers also code switch from the learners’ home language to English and vice-versa (Adler, 2001; Muthivhi, 2008). In all cases however, it could be said that where the use of two language codes is not properly and effectively applied, problems result, including loss of time and, more importantly, conceptual confusion on the part of learners.

The specific context of the school of study presented a uniquely African situation in as far as the use of language in the class room was concerned. English language was an additional language for both teachers and learners. Learners experienced English for the first time when they came to school. Teachers and learners’ home languages were Ndebele, Sotho or Venda, with Ndebele being the dominant language. Outside the classroom both learners and teachers communicated in their home languages. It was in the classroom that English was officially being used for the teaching and learning and in the reading and writing done by teachers and

learners. In reality all teachers were using both Ndebele and English in their teaching. Both of these language codes dominated classroom teaching and learning. Table 7 provides a summary of the language used for teaching and learning and the languages learners used in their responses during the process of learning. Only the lessons that have already been discussed under the theme of classroom teaching and learning, Grades One, Two, Five, and Seven B, have been used in a process of examining how language was used and how learners responded.

**Table 7. Language of teaching and learning and of learners' responses**

Date	Grade	Area of learning and topic	Language of teaching and learning	One word/short responses in Ndebele	One word/short response in English	Sentence response in Ndebele or English
23 Feb 2010	5	Religious studies: Jesus' friends	Ndebele & English	4	3	Nil
26 Feb 2010	1	English: Sounds, words and sentences	Ndebele & English	7	7	7 sentences in English
12 Oct 2010	7B	Science: The human heart	Ndebele & English	8	7	Nil
21 Oct 2010	2A	Religious studies: Forgiveness	Ndebele & English	4	4	Nil

The simultaneous use of two languages as LOTL in the study presents a new dimension of language use different from the use of the LOLT in other socio-cultural contexts. However, mixing the two languages can complicate or impede language development in learners. This is because neither of the two languages is being properly promoted in the process of learning. This was evidenced, in the lessons observed, by learners responding with one word answers and short phrases in both the Ndebele and English languages at Grade Seven levels, where

learners are expected in developmental terms, to communicate in full sentences (see Table 7). There were eight one word and short phrase responses in English and seven in Ndebele respectively in the Grade Seven lesson. In both the Grade Five and Seven lessons, there were no responses from learners to teachers' questions in full sentences in either Ndebele or English. The Grade One learners, who responded in English sentences, were in fact repeating these sentences after their teacher in the matching exercises.

Responding in one word and short phrases, especially at Grade Five and Seven levels was an indication that learners had problems with explicitly expressing themselves in any of the two languages. This was because one word or short phrase responses came from learners in both English, which was not the home language of learners, and in Ndebele, their home language. This demonstrates that the use of a mixed code of both languages produced complications for learners' in their use of language in learning. Thus, this language use situation had negative developmental consequences for learners in the study.

In an interview the Grade Five teacher explained the reason for the use of mixed code communication as emanating from the lack of understanding of English by the learners (see appendix H). The teacher explained that if he were to teach using only English he might find himself speaking alone when learners are lost in their attempts to understand him. He understands that English has no one-to-one correspondence with words in Ndebele. For example, the word 'tax collector' in the story he presented in his lesson was difficult to explain to learners. Even if he had used a Ndebele term related or similar to it, such as 'chief's messenger', that would still pose problems because children did not know about chief's messengers and taxes.

When the researcher brought up the problem of teaching concepts translated directly from English to Ndebele, the teacher acknowledged the contradiction that some concepts in

English may only be understood by mother tongue English speakers because they are not found in the African context. Here the teacher raises a pertinent issue relating to the contradictory conditions of schooling in Zimbabwe, namely the difficulty of translating concepts which apply to everyday life conditions in essentially western socio-cultural settings into a rural African socio-cultural setting. Here the teacher argues that his learners may find it difficult to comprehend a concept such as tax collection or tax collector, which has little practical bearing on or relevance to their particular rural socio-cultural setting, and claims that he might want to use a potentially similar concept, and one pertinent to the socio-cultural context of the learners, that of chief's messenger. By doing this, he hopes that learners would be able to understand the target concept through appropriate contextualisation. The teacher is however aware of the inherent contradiction as he notes that "We don't have messengers now", suggesting that even the traditional Ndebele lifestyle is fast disappearing, with examples such as "chief's messenger" also becoming unfamiliar to today's children as the practice no longer applies.

Textbooks were written in English for all subjects with the exception of Ndebele language text books. This means that a gap exists between the official language policy and the textbooks being published and distributed at schools. The Education Amendment Bill (2006), states that the language amongst the three main languages of Zimbabwe that is understood by the majority of learners at a school may be the language used as the medium of instruction, or LOLT, at the school. This means that Shona, Ndebele or English may be used whereas the textbooks are written in English for all subjects except for Shona and Ndebele language text books. This suggests a policy that has changed on paper while structures and resources have not been provided to facilitate that policy change on the ground.

#### **4.4. Consequences of teaching and learning on development**

The focus in this section is on describing in detail the limitations experienced as evidence of the short-comings of teaching and learning in the school. The description of the nature of limitations arising from teaching and learning is necessary for this study so as to provide pointers to the developmental consequences this had on learners' learning and cognitive development, which is central to the study. The developmental consequences will however be discussed in detail and explained in the light of theory in chapter five.

##### **Problems around literacy development**

There were ten learners at Grade Two level who were 'scribblers'<sup>28</sup> (see appendix I). These learners made up a quarter of the class of forty and the teacher stated that according to age, the learners were in the appropriate grade. This age level was determined by the age at which learners started schooling, which is from six to seven years. At Grade Two level, these learners, although around eight years of age, were still at the scribbling stage.

There were also fifteen learners who could write well at Grade Two level but were not able to read. These learners could not read in terms of decoding sounds and reading the whole words on the board and from the text books. I established the existence of these literacy problems through involvement with the class for two weeks. I literally counted the number of learners who were scribblers and those who could not decode sounds and read the words from the board and from the text books. Thus, together with the scribblers, the class had twenty five learners out of forty with literacy problems.

When teaching reading in this class, the teacher would write about ten words on the board. She would read the words while learners chorused read after her. She would repeat this twice

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<sup>28</sup> Scribblers is the term used to refer to learners who have not yet developed the appropriate writing symbols, who still make random, uncontrolled markings as a way of communication. This is usually characteristic of learners who are in the stage of pre-school levels at around the ages of two to four years.

or thrice, and then ask learners to read on their own. Firstly learners would read as the whole class as teacher pointed words to them and later as individuals. When individual learners failed to read a word, they will try to guess the word until they read it or would fail to 'read' the word until the teacher read it for them again. Asked whether this method of teaching reading was helpful in promoting reading in learners, the teacher's response was that it was helpful because at the end of the day two or three learners more than the previous day would be able to read (see appendix C). Interviewed about the general cause of literacy problems in her class the teacher's response was:

Teachers have been going to strikes many times last year. You can imagine that some of them did not even do Grade Zero. Plus most of the time we were not in school, looking for money. So I can say these children did not do Grade One properly last year. That's why they are like this. They are better off now, when they came here they were worse than this. I have tried to improve them.<sup>29</sup>

Such a high number of learners with literacy problems in one class evidence that the kind of teaching and learning learners were being exposed to was not oriented towards development of literacy and did not contribute to learners' learning and cognitive development. Sometimes the teacher did not allow the scribblers to write when others were writing. Her reason for this was that it was no use making them write as they would not be able to (see appendix C).

When asked about this, her answer was:

Is there any use since there is nothing they will write for you? I will be tired and de-motivated especially considering that there is nothing that we are paid at the end of the day. Aa, this is tiring, it requires love and determination, otherwise umhn...<sup>30</sup>

When learners who were not able to write at Grade Two level were refused the opportunity to practise, the implications were that their level of literacy and cognitive development would remain static. These learners with literacy problems were still going to proceed to the next grade because of the automatic promotion system. This means that the problems of lack or

<sup>29</sup> Interview with Grade Two A teacher, 21 October 2010

<sup>30</sup> Interview with Grade Two A teacher, 21 October 2010

absence of writing skills and of reading ability would continue to manifest with these learners as they go through the school. This is because they did not get adequate help in lower grades where writing and reading skills should be developed and a literacy foundation laid. This would have negative implications for their literacy and cognitive development.

In the Grade Five class there were also learners who were not able to read. The teacher was reading for them and they chorused after him (see appendix B). This is the same class in which the teacher explained that learners were Grade Five learners in name and not according to ability level. There were learners who could be described as being at Grades One, Two and Three levels in the class. He did not have learners who were at Grade Four levels because it had been completely skipped because of the prevalence of disruptions. The teacher informed me that the majority of the learners in his class could not write their names. The explanation given about the low literacy level of the majority of learners in the class was evidence of why the teacher was reading for the learners and them chorusing after him, rather than reading on their own. This shows the developmental losses suffered by learners as result of the kinds of teaching and learning that were taking place in the school of study.

### **Grade Seven failure**

The significance of looking at Grade Seven failure relates particularly to the use of summative assessment<sup>31</sup> at the end of the primary course. It is at Grade Seven level that all the teaching and learning that has taken place in the lower grades is assessed through national examinations. Thus, the effectiveness of teaching and learning during the whole primary course is seen to be determined at Grade Seven level.

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<sup>31</sup> In this study, summative assessment refers to examinations given at the end of a course, in this specific case, the national Grade Seven examinations given at the end of the primary course

There was a high rate of failure at Grade Seven level in the school. The high failure rate manifested from 2006 to 2009. The 2006 results showed both passing and failing symbols in the four subjects that learners sat for. The passing symbols were mostly in the Ndebele subject area, and the failing symbols were reflected more in the English language area. These 2006 results also showed some learners passing all subjects with average symbols, average symbols being in the range of 3, 4 and 5 according to the scale<sup>32</sup> (see appendix E). The 2007 results were not significantly different from the 2006 ones, showing the same rate and ratio of passing and failing symbols. There were again more passing symbols in Ndebele and there were again learners who passed all subjects with average symbols. There were more passing symbols in Ndebele because it is the home language of the majority of learners. Ndebele being a home language affords learners a better understanding of Ndebele as a subject than those subjects examined in English.

The 2008 results showed deterioration, with failing symbols even in Ndebele. Most learners had failing symbols in all subjects. In 2009 there was an even greater deterioration, with the overall pass rate for all subjects being 3%. This overall pass rate of 3% in all subjects is an indication that most learners failed across the four subjects they sat for. It means that very few learners had passing grades in the four subjects in which they were examined. Thus there was a steady deterioration from 2008 to 2009 (see appendix F). This continuous decline of results from 2006, until the 3% pass rate for all subjects in 2009, is evidence that teaching and learning continued to deteriorate and this had implications that replicated from one year to the next.

The national Grade Seven examinations used as an instrument of summative assessment examined knowledge of content in different subjects. Questions were formulated in a

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<sup>32</sup> The Grade Seven scale is the measure that is used to determine passing and failing symbols for the national Grade Seven examinations.

multiple choice, structured and open-ended format (see Appendix D). This means that besides knowledge of content, comprehension skills, writing skills, language use, and numeracy skills in the subject of Maths were being examined among others. The high failure rate manifesting at Grade Seven level shows that learners had not developed the relevant skills by Grade Seven and had not in the course of teaching and learning acquired the required knowledge of content or level of skills for effective performance in the previous grades.

Lack of the relevant skills and knowledge manifested at the end of primary school in the examinations used to assess and determine whether learners had acquired these by Grade Seven in the process of their learning in previous grades. Thus, Grade Seven failure was an indication of the limitations of teaching and learning in previous Grades as well as in Grade Seven. This was clearly manifest in Grade Five learners who could not read, write their names, copy from the board or formulate a sentence to ask to go to the toilet. These learners had not acquired the required knowledge and skills during the course of learning in this grade and thus could not be expected to do well in the Grade Seven examinations due in two years time.

#### **4.5. Conclusion**

The chapter described instances of observed school and classroom teaching and learning practices in order to illustrate the impact of the socio-cultural conditions and context of the school, as well as the more recent economic meltdown in Zimbabwe, on rural Zimbabwean schooling. The chapter used the data collected during the research visit in the school, which was interpreted from the perspective of the understanding of research and theorised in the socio-cultural framework within the discipline of Developmental Psychology.

Employing this interpretive frame, the efficacy of the relational modes that dominated classroom practices in Gungwe primary school during the period of the four months of

observation were interrogated. The conclusion was that the dominant modes of teaching used by teachers to present knowledge to their learners were shaped in fundamental ways by the culture and society in which schooling is taking place. These relational modes privileged teacher domination and learner subordination forms as opposed to substance in regard to subject matter teaching and learning and to concept acquisition. This is inclined to inhibit learner creativity and independence of mind in terms of general developmental consequences of the experience of formal schooling. Chapter five elaborates on these theoretically informed developmental consequences and how schooling in rural Zimbabwe fails to promote them.

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## CHAPTER FIVE

### DISCUSSION AND CONCLUSION

#### 5. Introduction

The chapter discusses the findings of the study. These relate to the contradictions existing inside classrooms in teaching and learning, as well as within the practical everyday life circumstances of rural Zimbabwean teachers and learners. Thus, the discussion relates to conditions of schooling that were not favourable to learners' development during the period of research and as a result of various disruptions and socio-cultural factors, dominant teaching approaches that were empirical, and the general quality of classroom teaching and learning that was inadequate for learners' learning and cognitive development. These findings are discussed in terms of the research questions the study set out to answer.

The chapter contributes to the clarification of findings by addressing the issue of "causal-dynamic" relationships. This is done through an explanation of the reasons for the prevailing unfavourable conditions already mentioned and the dominant empirical approaches and the quality of classroom teaching and learning that were observed. Causal dynamic relationships are also addressed by using theory to explain the developmental consequences on learners' learning and cognitive development according to the specific findings.

The intention of this chapter is to use theory to reveal the extent to which classroom teaching and learning has deteriorated over a period of around ten years and how the specific cultural traditions in this area imposed limits on the meaningful learning activities in the classroom. The purpose of this is to suggest ways in which teachers could organise improved teaching and learning to assist and optimise their learners' learning and cognitive development. This is also with a view to suggesting further research on how cultural practices and specific

traditions of teaching could impact on the quality of learners' future social and economic participation.

### **5.1. How the study set out to achieve its purpose**

The purpose of the study was to investigate the conditions of schooling in rural Zimbabwe during 2010 and what consequences these had on teaching and learning and consequently on learners' learning and cognitive development. This investigation was intended specifically to aid in the understanding of how the political and economic conditions and the specific cultural traditions influencing schooling in rural Zimbabwe, impacted on classroom teaching and learning and on learners' learning and cognitive development during the period 2010. The reason for focussing on this area was that rural Zimbabwe presented a unique socio-cultural context which would make it worth investigating in terms of cultural traditions and certain unique conditions of schooling in terms of the political and economic crisis of the period. It is hoped that this will contribute to new knowledge in the discipline of developmental psychology, in terms of cognitive development within a unique socio-cultural context.

The case study I used was that of a specific primary school in Gwanda district. The ethnographic approach I employed enabled me to understand the constellation of contextual factors, factors which were aggravated by the prevailing socio-economic and political problems that impacted on schooling. The observation and interview methods used enabled the gathering of the kind of data useful to understand how classroom teaching and learning has been adversely affected by the prevailing conditions of schooling. The design of the research and methodology proved adequate for investigating the research questions, and for yielding valid and reliable data which I was able to analyse successfully using theoretically informed interpretations. In this chapter, I will be discussing the substance of the findings which emerged from these processes.

## **5.2. Conditions of schooling and developmental consequences**

The focus of the discussion here is to explain the developmental consequences the conditions of schooling had on learners. These consequences will be explained in the context of the political and economic crisis in Zimbabwe at the time and the implications of this for schooling. The negative influence of certain cultural traditions learners' way of learning will also be discussed.

### **5.2.1. Effects of the socio-cultural context of schooling**

The political and economic conditions in Zimbabwe were not favourable for schooling during the time that the study was carried out in 2010. This was the case because Zimbabwe has been a grossly unequal society with longstanding political tensions that date back to the political transition from colonial to nationalist regime in 1980. Land ownership and redistribution served as the rationale for the ZANU-PF nationalist regime to unlawfully seize commercial agricultural land, an action which resulted in the imposition of sanctions by the international community and the present economic hardships which have in turn affected the education system in general and the quality of classroom teaching and learning.

According to Vygotsky (1978) developmental processes require special conditions in which to be effectively promoted. For example, cognitive developmental processes such as mediation and internalisation require conditions in which both the teacher and learner are fully participating in the learning activities. Instances of absenteeism, hunger and poverty, or disruptions as a result of the political and economic crisis do not provide conditions conducive to learner development. In the Vygotsky-Luria, those subjects who participated actively and effectively in schooling activities transformed their thought processes and were even able to classify objects in abstract categorical forms. However, Luria (1976) found that the thought processes of those subjects he referred to as 'unschooled' were not transformed because of their lack of participation in schooling. Similarly the learners in this study were

also not exposed to nor had opportunity enough to participate actively in effective schooling activities during a time of political and economic upheaval and this had negative developmental consequences for their thought processes, in particular their development of abstract concepts. These remained untransformed and stagnant.

Moreover, according to Vygotsky (1978), development precedes learning. In essence, cognitive development occurs when formal school learning has first taken place. In this study, disruptions and disturbances negatively affected schooling and formal learning taking place in the classrooms. This in turn had negative developmental consequences for learners in terms of the Vygotskian proposition of learning preceding development. This was because contextual factors operating in the schooling situation delayed learners reaching vital cognitive developmental milestones. Evidence of this delay in progressing towards or reaching these cognitive developmental milestones manifested in a Grade Two class where ten learners were still at the scribbling stage and fifteen still unable to read as given in chapter four. Most of the learners still unable to read even at Grade Five level as described in the previous chapter attest to that also.

Matusov explained that the social, cultural, historical and political particularity of the situation may lead to different “developmental directionality” (Masutov, 2008, p. 9). In essence, different socio-cultural contexts and living conditions can influence rates of children’s development differently. In this study the probability of the developmental directionality of the learners cannot be in any way different from being low, considering the extent of the negative effect the socio-cultural context on learners’ learning and on their cognitive development.

### **5.2.2. Traditional practices of respect, authority and protocol**

The kind of respect shown, authority exerted and protocol followed in schooling were manifestations of cultural traditions resulting from the social organisation of the wider

society. Learners' lack of active participation in learning has its origins in these cultural traditions. Vygotsky (1978) explained the relationship between culture and the development of higher cognitive functions. According to him, higher psychological functions are not superimposed as a second story over the elementary ones; they represent new psychological systems (Vygotsky, 1978, p. 24). In essence, it is during the process of mediating cultural tools, and the internalisation of these, that individuals transform their thinking processes.

Cultural traditions of respect, authority and protocol did not provide a socio-cultural context in which these cultural tools that transform thinking could be effectively mediated. This lack of mediation could be seen in those kinds of social relationships resulting from respect, authority and protocol which hindered learners in acquiring the kinds of cultural tools they could use to develop their thought processes. The language tool, for example, a crucial 'tool' for the organising of thought processes. This could not be usefully or effectively developed when learners were not actively involved in the activities of learning.

Besides hindering the acquisition of cultural tools, passive learning metamorphoses into dependency and authority-based relations between teachers and learners, in which the teachers is seen as the sole source and transmitter of knowledge. The consequence of this is that learners come to depend on the teachers' interpretation of content matter which in turn leads to rote learning and parroting. Observations of learners chorusing after teachers, even at Grade Seven levels, indicated that learners were dependent on teachers for all information and knowledge. However, these forms of learning reduce learners' ability to master school knowledge and thus diminish the possibility of their becoming successful participants in the work force or in modern society. In addition these forms of learning may silence learners and produce uncritical members of society and citizens unable to create, evaluate and innovate or to constructively question authority and tradition.

Corporal punishment used to enforce discipline in the study also has its origins in specific cultural traditions. Vygotsky (1997) argued against corporal punishment in schooling, stating that every form of punishment places both the teacher and the student in the most painful and difficult of positions. He argued that neither love nor respect can be preserved between the teacher who is inflicting punishment and the child he is punishing (Vygotsky, 1997). In essence, corporal punishment does not foster good teacher-pupil rapport. It affects the self-esteem of the learner on whom the corporal is inflicted. Thus, in this study, extensive use of corporal punishment observed in schooling had negative developmental consequences for learners' learning and for their cognitive development.

The negative implications of corporal punishment for learners' learning and cognitive development was evidenced in the subservient teacher-learner relations and passive learning as coded in classroom behaviour. It was also manifested in authoritarian relations between teachers and learners, thus militating against the forms of learning and cognitive development that formal schooling should promote. To promote effective learning in learners, formal schooling requires free social interaction between teachers and learners and active participation by learners in the classroom for mediation and internalisation to occur. In this respect the particular socio-cultural context of schooling in rural Zimbabwe provided minimal developmental gains in learners' learning and cognitive development.

The negative influence of Venda cultural traditions on schooling were also experienced in the South African socio-cultural context (Muthivhi, 2008). Learners tended to classify objects in ways they were accustomed to in their everyday socio-cultural contexts. This demonstrates the extent to which the everyday spontaneous forms of learning can manifest similarities although developing from different socio-cultural contexts in terms of tradition and conditions of schooling. From this it is possible to generalise how important it is that, for

cognitive development to occur in learners, the socio-cultural context of formal schooling differ from the spontaneous everyday context as much as possible.

### **5.3. The developmental consequences of classroom teaching and learning**

The focus of this discussion is on offering a theoretical underpinning to the developmental consequences of the dominant modes of classroom teaching and learning on learners in this study. The discussion also focuses on the implications of the quality of classroom teaching and learning practices for learners' learning and cognitive development. An examination and explanation of this is important in order to illuminate the developmental consequences for learners' learning and cognitive development.

#### **5.3.1. Dominant modes of teaching and learning**

The dominant teaching modes observed were empirical because of the teachers' idea of utilising the prior knowledge of learners to teach or impart new school knowledge. Teachers incidentally endorsed this empirical approach during interviews, referring to the empirical approach as teaching from "the known to the unknown". By this they meant that they focus on and emphasise what their learners already know in order to teach them what they do not yet know, the idea being to utilise learners' everyday experiences to teach or impart new knowledge.

Vygotsky (1978) also acknowledges that the prior knowledge of learners is useful to them in the process of acquiring new knowledge. However, according to Vygotsky (1978), formal schooling should develop scientific knowledge in learners, a kind of knowledge whose acquisition requires a highly systematised procedure and abstraction and generalisation from universal to particular contexts. In elaborating on this, Kuzolin (1990) explained that scientific concepts proceed from the top to meet the everyday experiences of learners which proceed from the bottom. In essence, for formal school learning to enable learners to acquire scientific knowledge, it should be structured and facilitated in ways that differ from the

spontaneous forms that learners use to acquire everyday concepts in their everyday contexts. The empirical approaches that dominated schooling in this study, endorsed as teaching from the “known to the unknown”, did not offer learning opportunities that were different from learners’ spontaneous everyday forms of learning. This had negative developmental consequences for learners because cognitive development arises from systematically mediated experiences of learning presented to learners in abstract form.

Heedegaard’s (1990) proposition is that effective teaching approaches should proceed from the abstract to the concrete experiences of learners. Davydov, cited in Kuzolin (1990), explains this kind of teaching as the theoretical approaches. Theoretical approaches facilitate acquisition of school scientific knowledge and promote cognitive development because they involve abstraction and generalised understanding of concepts (Kuzolin, 1990). This results in the understanding of concepts from the abstract and using theoretical means to construct the ideas. The dominant empirical teaching approaches used in this study, approaches which proceeded from the concrete everyday knowledge of learners, were the opposite of the teaching approaches that promote acquisition of scientific concepts and promote cognitive development. In essence, the dominant empirical approaches used in the school reinforced everyday forms of learning in learners and continued to be grounded in everyday concepts rather than to facilitate the acquisition of scientific knowledge. This made the “known to unknown” approach inadequate in terms of transforming learners’ ways of learning and promoting cognitive development.

In elaborating on the limitations of the empirical approaches, which were dominant in the study, Davydov as cited by Kuzolin (1990) stated that the empirical approaches to teaching obliterate the essential distinction between everyday generalisations and scientific concepts and limit scientific inquiry in learners. This has relevance for the school of study, because the distinction between everyday knowledge and learners’ understanding and ability to apply

scientific concepts was difficult to determine from teaching that seemed mostly to proceed from observable properties of objects and the everyday experiences of learners. Thus it was difficult to determine whether or to what extent abstraction and generalisation levels had been reached by learners.

In addition, for learners scientific inquiry as a new form of formal learning was limited because the teaching approaches were not very different from those teachers were using, drawing from learners' everyday contexts. That learners had not developed or incorporated scientific inquiry into their own modes of learning was evidenced by their chorusing after teachers even at Grade Seven levels. Thus, the dominant approaches used were not adequate and sufficiently effective to prepare learners for successful schooling, achievement and effective future participation in society. This would constitute hindrance to their chances of future success in a modern world where scientific knowledge and inquiry have become of prime importance not only in solving day to day problems but in the world of work.

The empirical approaches to teaching which dominated schooling were also as a result of the tradition of schooling. Schooling in general, and approaches to teaching in particular, had not undergone a significant transformation from the previous traditional, empirical and teacher-dominated approaches. Although to some extent a paradigm shift has taken place in terms of a movement from the traditional empirical approaches to embrace more recent learner-centred approaches, in the study this transformation has not been in totality. The reason for this being limited understanding on the part of the teachers of the processes of meaningful learning and of the kinds of teaching approaches which can be designed and used to facilitate effective learning. Thus empirical approaches continued to dominate schooling and failed to promote effective learning because of their limitations in terms of fostering

critical engagement with scientific knowledge. Thus learners continued to suffer developmental losses in terms of meaningful learning and cognitive development.

As has been described, the dominant empirical modes were characterised by drill, repetition and rote memorisation, the emphasis in assessments being on learners reproducing content without application or problem solving. Thus processes vital for cognitive development were missing in these approaches, there were developmental losses for learners. The literacy problems experienced in the school could be seen as resulting from these dominant teaching and assessment approaches.

According to Vygotsky (1978), cognitive development is promoted through the collaboration that occurs during the joint social interactive process in teaching and learning. Cole's (1996) reading programme, whose design is based on Vygotsky's general genetic law of development, demonstrates how a joint social interaction between teacher and learner, is able to develop reading abilities in learners at the same time as promoting effective learning and cognitive development. Cole's QAR, shows how cognitive development can be promoted through the inter-subjectivity that occurs as each member of the group understands and performs his or her role in the reading process. Thus, Cole's (1996) reading programme combines processes that promote cognitive development at the same time facilitating comprehension abilities which develops effective reading on learners.

The inadequacy of dominant approaches to the teaching of reading which emphasise decoding has been described and compared to Cole's reading programme with its simultaneous development of decoding and comprehension. While decoding is important for learners in a process of developing reading in terms of providing the basics of reading, it is not adequate for developing the kind of meaningful reading learners require in the process of their learning taken as a whole to include cognitive development. Thus, the dominant

teaching approaches including the teaching of reading in particular, had developmental setbacks in learners that could have long term impacts on learners reading abilities and consequently on their future lives.

### **5.3.2. Quality of classroom teaching and learning**

In the study the quality of the mediation in the teaching process was not sufficiently effective to promote learners learning and cognitive developments because of the level at which lessons were pegged. Teaching and learning was matched or tailored to the expected performance level, or below this level, of learners. This was as a result of teachers teaching strictly according to the ministry syllabuses, which provided subject content which was structured according to curriculum designers' expected learners' mental developmental stages at different grade levels. In cases where teachers pegged their teaching below grade levels, their argument was that learners' levels of performance were low.

Vygotsky (1978) explained that the only 'good learning' is that which is in advance of a learner's development and this kind of learning takes place in the Zone of Proximal Development (ZPD). Learning oriented towards developmental levels that have already been reached is ineffective because it does not aim for, or is not pitched at, a new stage of the developmental processes and lags behind the process.

The Grade Five lesson on friendship demonstrated a mediation process that lagged behind the developmental process in the learners. When the teacher asked the Grade Five learners to identify their friends to teach the concept of friendship, the process of identifying friends had already matured as a stage of learning as all learners knew who their friends were. Although the teachers' reason for doing this was that the learners' developmental level was low, mediating at that level had negative developmental consequences because the functions in the verge of maturing lying in the ZPD remained static as the kind of mediation did not reach out to them or challenge them to learn beyond a particular stage of cognitive development.

The quality of the mediation processes in lessons observed was also inadequate for learners' learning and cognitive development in terms of language. Language development in learners was curtailed because teachers did not use the LOTL as a powerful psychological mediator for cognitive development (Kuzolin, 2003). Elaborating on this idea, Karpov (2003) argued that in schooling special learning activities that equip learners with psychological mediators should be designed. Language, among other psychological mediators is very crucial for the development of thought processes.

In this study, the LOTL was not effective in promoting learners' learning and cognitive development because of the teachers' use of mixed language codes of Ndebele and English. Teachers did this in the belief that it helped learners to understand the concepts as English was not their home language. However, according to Vygotsky (1986), home language plays an important role in providing the foundation upon which the learning of a second or foreign language is laid. When teachers used the mixed code of Ndebele and English simultaneously, no foundation was laid at the outset for the learning and use of English. This had negative developmental consequences for learners' development of language, a vital tool for the development of thought processes.

According to Vygotsky (1962; 1986), language and the development of thought processes are inseparable. It is through the psychological tool of language that thought processes are organised. This is demonstrated in Wertsch's (1979) language game. There are four successive levels involved in the game, from other-regulation to self-regulation during the dyadic process of mother-child social interaction. At the fourth level, where the transition is completed, the child enters into an egocentric speech that he uses to self regulate him in the task situation. In essence, an adult's mediation through the language should bring the child to a level where he can independently organise his thought processes in turn through the tool of language.

In the study, failure by learners to explicitly express themselves in the process of their learning, manifesting in one word or short phrase formulation, is an indication that the LOLT was not adequate to take learners to a level where they could organise their thought processes through language. A negative developmental consequence arising from this was that learners could then not participate effectively in the learning activities thus affecting their learning modes and processes of cognitive development.

The extensive use of group-work in the study was because teachers seemed to understand that it is a way to make learners interact amongst themselves and get actively involved in the learning process. However, the organisation of groups was according to learners' abilities and did not facilitate the kind of interaction intended in terms of developing learning. According to Vygotsky (1978) social interaction and mediation by "knowledgeable others" plays an important role in promoting cognitive development in the learning process. As meaningful interaction occurs, development in the zone of development of each learner is facilitated through interacting with other learners and there is internalisation of the social activity, and hence development of higher mental functions. In this study the organisation of group work that did not facilitate interaction and mediation by knowledgeable others, had developmental losses for learners.

Inter-subjectivity according to Wertsch (1979; 1985) is an important process if cognitive development is to be promoted through group work. Inter-subjectivity requires that all members in the group should understand the meanings and purposes of the activities in which they are engaged. This understanding helps learners in the group, working as a group, to accomplish the joint tasks and goals of group work. As inter-subjectivity occurs through understanding the group work task, internalisation of the external occurs and cognitive development is promoted in learners participating in this kind of activity. In this study, the kind of 'group work' in which one learner wrote while others looked on, was evident that the

process of inter-subjectivity was minimal. It appeared that, apart from the scribe, the other learners did not understand the meaning and purpose of the activity they were engaged in. Lack of inter-subjectivity meant that the kind of mediation in the ZPD that comes through interaction of group members, as they work together to understand the task, was not there. Thus, while it was observed in the course of this study that group work was extensively used by teachers, it did not have significant developmental gains for learners as it was ineffective in promoting meaningful learning and cognitive development.

The quality of teaching and learning in the school was also poor because of the nature of the knowledge that was being imparted to learners. The dominant modes of teaching and learning emphasised the acquisition of content knowledge and skills, and these were to be given back or reproduced by learners in assessment tests. According to Egan & Gajdamaschko ((2003), emphasis on knowledge acquisition and skills is not adequate for promoting cognitive development in learners. According to their argument, knowledge serves two purposes: mediating human activity on one hand, and mediating development of higher psychological processes on the other (Egan & Gajdamaschko, 2003). In essence, it is in the nature of the knowledge being imparted and the quality of the processes of mediating it that facilitate effective and meaningful learning.

In the study, while acquisition of subject knowledge and skills for learners to regurgitate in assessments in tests and in Grade Seven examinations at the end of the primary course was of prime importance, the nature and role of knowledge as mediating human processes of social interaction and as mediating the development of higher psychological processes was not considered important or emphasised. This could be the main reason for the high Grade Seven failure rates: learners lacked the ability to apply knowledge, or generalise in specific situations such as in formal examinations.

However, the Grade Seven failure rate may not be an indication that learners lacked the capabilities of thinking or reasoning at the required levels but that the modes of thinking and problem-solving were not considered important by teachers and this resulted in learners failing to transfer knowledge in a formal assessment context. This failure in turn would not bring developmental gains to learners because these failures would result in lack of confidence in learners and further discourage their future participation in learning at the next level of development.

#### **5.4. Recommendations for school improvement and further research**

The recommendations provided below are offered in the form of suggestions for improving specific areas of teaching and learning as described and discussed in this study specifically and in rural Zimbabwe generally. The recommendations suggested for improving classroom teaching and learning would however proceed from the larger socio-political context, at government levels as it is difficult for demotivated teachers to engage themselves into activities recommended to improve their practice when they are demotivated and have no support from the government.

##### **5.4.1. Improving the conditions of schooling by the government**

###### **Improving the political situation**

With regards to the political situation of the day and its implication on schooling, the present minister of education stated that schools should not be used as political bases whatsoever including the threatening of teachers (Johnstone, 2011). Since the minister seems to be aware of the implications of political disruptions and is criticising them, it is recommended that the minister should lobby for policy and legislation that is apolitical for schooling. Instead of only criticising politics in schooling the minister's steps and measures should be to advocate for legislating against politics in schooling. This legislation should also state that teachers do

not participate in labour strikes. With a specific legislation meant to make schooling apolitical put in place, this might go a long way in improving the political situation as a condition for schooling.

### **Improving the economic situation**

To improve socio-economic conditions of schooling, the ministry of education should work in collaboration with international organisation to resuscitate schooling since the government is presently not able to support education fully. These efforts are already being done as the minister stated in parliament that the ministry is working in collaboration with UNICEF and UNESCO. They have established the “Education transition fund” and have raised funds in the region of US\$30 million. From the fund the ministry will supply schools with books. It has so far supplied a number of schools with adequate textbooks (Hansard, 2010).

While this is a step in the right direction, it is not only in the supply of books that schooling will improve but the ministry should work again at motivating teacher through paying them adequate salaries. With teachers as the implementers of the curriculum frustrated, no matter how good the curriculum might be and what provisions have been made to implement it, difficulties might still be experienced in schooling. Parents supplementing teachers’ salaries though was a positive move to motivate teachers, it proved to have its loopholes and it had unintended consequences. Against this background, it is therefore recommended that the ministry of education allocates a certain percentage from the “Education transition fund” to teachers to supplement their salaries, not parents doing the supplementation. If teachers are paid well and motivated it might go a long way in making them motivated to apply themselves fully to their practice, hence the improvement of classroom teaching and learning. Motivating teachers through paying them adequate salaries might also work towards reconciling strained relations with parents, and the good community school relations are revived to the betterment of teaching and learning.

### **5.4.2. Improvement of classroom teaching and learning**

The recommendations suggested here relate specifically to what teachers themselves can do to improve classroom teaching and learning when they had been supported externally by the government through the ministry of education, to improve their working conditions in terms of the political and the economic situation. Thus the recommendations suggested are therefore meant to address the specific limitations as observed and experienced in this study. The suggestions are offered in the light of how they would apply in the context of the study and how useful and relevant they could be in improving specific aspects of teaching and learning and in similar schooling contexts.

#### **Improving on the dominant empirical approaches**

Teachers in the study indicated that they were in favour of child-centred approaches but on the ground and as a tradition of schooling, continued to use the empirical approaches characterised by rote learning, repetition and drill, none of which promoted meaningful learning and cognitive development in learners. This suggests that teachers did not have an adequate understanding of how learners learn, or of the organisation of effective teaching approaches which would promote this. It is against this background that recommendations to improve classroom are intended to address the underlying cause in the hope that transformation in the area of teaching modes and practices could be facilitated.

Thus, in order to address these underlying causes of limited understanding and tradition of schooling, in-service workshops to assist teachers in understanding that effective learning occurs when teaching and learning are considered as social activities, could be of value. Such workshops could offer demonstration lessons during which workshop facilitators and participants are collaboratively involved in constructing knowledge as a social activity. Video clips of this kind of lesson could also be shown to teachers and they in turn practice conducting such lessons in the workshops. In the course of their participation in the

workshops, teachers would experience the ways in which the active participation of learners is facilitated in a joint social interactive process of learning and how, in turn, active participation helps learners' processes of learning and developing cognitively.

Since teachers already knew in theory about the importance of child-centred approaches, but did not fully understand the role that the approach plays in learners' learning and cognitive development, involvement in workshops as described in the above paragraph, could facilitate the understanding of child-centred approaches in a more concrete and experiential way. When child-centred approaches are applied, experienced and understood in a new light, through experiencing the kind of learning that comes through a meaningful social activity in which learners actively participate, teachers could begin to embrace child-centred approaches from a new perspective and thus adopt and use this approach in their own practice. When this happens transformation can take place. When teacher use the child-centred approaches from their own experience and a clearer understanding, they will begin to promote the active participation of their learners in their learning and meaningful participatory learning activities in classrooms will thus be experienced.

Transformation from empirical teaching approaches to participatory, developmental approaches could also be facilitated through teachers understanding those theoretical approaches to teaching proposed by Heedegaard (1990) and using them to underpin their practice. As the teachers in this study seemed to subscribe to the teaching from "the known to the unknown" approach, shifting readily from this way of teaching might not come easily or overnight. Thus, at the first stage of this proposed process of transformation, teachers could participate in-service training during which theoretical approaches are explained in terms of how these approaches could facilitate ways of learning which develop learners' problem solving skills and abstract thinking processes.

After they have received some theoretical training, a practical programme could be designed for teachers in the school to facilitate and apply this knowledge. As an example of this practical application, use could be made of the science lesson described in chapter four where the concept and functions of the human heart were taught using the empirical approach. The activity could involve two groups of learners. In the first group of learners the empirical way of starting from the learners' every day experiences a pump, its uses and workings, would be used as the teacher did in the lesson described in chapter four. With the second group, the teacher begins her lesson on the human heart without first making reference to pumps and their everyday use. This lesson could be conducted in the same way that the concept of a circle is taught to learners using the theoretical approaches described in chapter two.

After the two teaching experiences the two groups of learners would be given questions which required them to describe what the human heart is and how it works. Teachers would then compare the answers given by learners from each of the two groups, list the differences they observed in the respective responses and discuss these with a view to comparing the two teaching approaches. The differences in the learners' responses would help teachers understand how the use of theoretical approaches helps to develop abstract thinking in learners. Thus, the practical experience and application of how theoretical approaches assist the ability to abstract and generalise in learners would help teachers to re-organise their approaches, starting from what learners do not yet know and proceeding to what they already know, which is a teaching method that can promote effective learning and contribute to cognitive development.

If and when teachers understand the theoretical models they are presented with and are able to use them to inform their teaching, learners may develop new forms of learning characteristic of formal schooling. Thus, although teachers might not be expected to implement or use these theoretical approaches strictly according to advanced Galperin's

theoretical approaches and those proposed by Davydov cited by Kuzolin (1990), these models can inform their understanding of how theoretical approaches help teachers to help learners to think in abstract ways. This could significantly help to facilitate the movement from teaching from the “known to the unknown” which teachers have endorsed as an effective approach.

### **Suggesting alternatives to the use of corporal punishment**

Chapter four showed how corporal punishment and its use are influenced by culture, it would be important firstly to ensure that teachers understand the negative psychological implications of corporal punishment for learners. Workshops educating teachers in the schools about the negative sides of corporal punishment would therefore be recommended. It is hoped that these workshops would encourage teachers to use other forms of punishment that can be equally if not more effective in controlling and modifying learner behaviour in the school. For example, teachers can discuss with learners what can be done to avoid things that interfere with schooling such as late coming. Having learners suggest ways in which they can avoid late coming to school could result in a code of conduct which learners themselves design and use to self-regulate them against late coming. In that respect, both teachers and learners develop and own a code of conduct which helps to guide and monitor the ways learners conduct themselves without enforcement through corporal punishment.

### **Improving the quality of classroom teaching and learning**

Vygotsky’s ZPD as a method for facilitating learning and acquisition of knowledge is recommended as an underpinning for the process of restructuring and reorganising teaching and learning, to become effective and meaningful in the promotion of cognitive development in learners. Holzman and Newman (1993, p. 85) argued that Vygotsky left the door open to pragmatic objectification of the ZPD and that it is our task as educators and researchers to close it. In essence, Vygotsky realised that the use of ZPD in teaching and learning is

potentially wide and is dependent on the context within which it is applied. It is therefore up to the researchers and practitioners in education to see how best they can utilise the ZPD to re-organise and restructure teaching and learning.

This study recommends the use of the ZPD to underpin the process of restructuring and re-organising classroom teaching and learning. The use of the ZPD is recommended from the Vygotskian idea that development is facilitated through teaching and learning pitched at a level above learners' actual performance levels, and also that it is in the ZPD that new developmental pathways are opened during learning (Vygotsky, 1978). The pegging of teaching and learning above learners' actual performance levels might be difficult for teachers who are not used to do this. Thus this process could take assessment as its starting point.

The idea of Dynamic Assessment (DA), is suggested and could be introduced as a form of assessment supplementary to traditional forms that assess what learners have acquired in their learning in terms of reproducing content. The new DA tool would be a means of determining the potential of learners rather than simply their ability to reproduce content. According to Vygotsky, in the process of this kind of assessment a learner is asked to solve problems that are beyond his mental age with some kind of cooperation and determine how far the potential for intellectual cooperation can be stretched and how far it goes beyond his mental age (Vygotsky, 1998, p. 202). In essence, the purpose and process of DA way of assessment needs to be understood by teachers in order for them to use it effectively and meaningfully in assessing a learner's potentials.

Workshops which demonstrate the designing and use of DA tests for learner assessment could be a starting point for this. This would assist teachers in their understanding of what is required of them and of learners in this new way of assessment. After the demonstration workshops, teachers could then have practice in designing DA tests and using them to work

with learners to determine their potential. Once teachers are able to establish learner-potentials through DA, they can then adjust the level of their teaching and learning to a level above the actual levels of learner performance by using learner-potentials as a baseline. This would involve re-organisation of their lesson planning since the lessons would now be based upon both what learners have achieved and what they are able to do. When teaching and learning has been adjusted in this way, it will be possible to offer learners meaningful learning tasks that facilitate their cognitive development.

### **Productive and meaningful use of group work**

As teachers have begun to understand the importance of group-work in terms of a learner centred approach, they would need to devise ways of effectively facilitating learner interaction by means of meaningful group work. Firstly, teachers would need to understand that the organisation of groups should be on the basis of mixed ability. This would facilitate social interaction and meaningful learning as the more knowledgeable peers mediate the learning of the less competent learners. When the more knowledgeable learners mediate learning in this way, all the learners in the group come to understand the meaning and purpose of the activity, and inter-subjectivity takes place. When there is social interaction and inter-subjectivity, group-work becomes a joint social learning activity which is meaningful and facilitates cognitive development in learners.

### **Language of teaching and learning**

For learners to develop language competence and effectively use it to learn and express themselves clearly in classroom activities, teachers could initially use the children's home language to lay the foundation for learning English. Vygotsky's emphasis on the role of a home language in the acquisition of a second language has been mentioned as the role played by the home language in providing the foundation for the learning of a second language (Vygotsky, 1986). The reason for this is that word meanings are already developed in the

home language. To help learners develop language competence for school learning, teachers could reorganise their LOLT in such a way as to start with using the learners' home language without mixing it with English. When learners have mastered the basics of the second language, English, then English language can be gradually introduced and ultimately used as the LOLT.

Again rather than code mixing the languages teachers should code switch from one language to the other. From the studies carried out in South Africa on language use (Adler, 2001; Muthivhi, 2008) code switching, if done appropriately and skilfully has a positive potential to improve classroom teaching and learning, although further research on its viability and effectiveness is still necessary. Thus, if code switching rather than code-mixing can be tried out in this specific context, it might go a long way to improving the quality of classroom learning activities in the school.

### **Literacy problems**

To improve literacy generally, but specifically in the area of reading, a problem in the school, with learners unable to read at Grade Five levels, Cole's (1996) QAR reading programme is recommended. The most relevant aspect for this study of Cole's reading programme is its organisation of reading as a joint social learning activity. This kind of reading activity addresses the limitations of the traditional and empirical methods used in the school of the study to teach reading, which were characterised by drill, repetition and rote memorisation. Thus Cole's QAR ideas are specifically intended to address drill, repetition and rote memorisation as early as Grade One and Two.

The teachers could organise their reading activities as a joint social activities as Cole (1996) did in his study. This would involve constituting reading groups in which each learner, assisted by a teacher, plays a role in the reading activity. Even as learners are still at the stage of mastering sounds, words and sentences as was the case with the Grade One learners

observed, for the teacher to organise the reading activity in this way, ensures that each learner plays his or her role in a social group. This would go a long way towards addressing the problem of rote learning and would introduce meaning based, as opposed to rote learning reading activities at an early stage.

In the study the reading method in Grade One and Two emphasised decoding. Decoding is an important basic skill required in reading and for learners who are not exposed to any reading practice outside formal schooling as was the case for many learners in the study. It was appropriate in terms of developing learners' reading for teachers to emphasise decoding at the beginning. However, for reading to be meaningful, comprehension skills need to be developed as early as possible. Cole's (1996) QAR again becomes useful in designing reading activities for improving comprehension from the early stages of learning.

In Grades One and Two the emphasis can still be on the decoding skill but the idea of comprehension can be introduced by learners playing roles that require them to demonstrate the meaning of a word or sentence through miming. When a learner mimes a word or sentence correctly or incorrectly, it gives the teacher an indication as to whether the learner has some comprehension of the word or sentence. In this way Cole's QAR programme can be useful in addressing the issue of comprehension from the very beginning of the process of reading development, rather than waiting for learners to first master the skill of decoding.

From Grade Three to Grade Seven levels, emphasis can then be on more challenging comprehension tasks. Teachers and learners can then concentrate on playing roles that facilitate comprehension such as giving the main idea of the text, predicting, and answering questions about the text. If Cole's QAR is used in this way, the decoding as well as the comprehension skills of learners in this study would improve.

Using Cole's reading programme would also promote cognitive development because the activities which make up the programme target levels above the learners' actual performance

levels. The programme demands that learners predict what would happen next in the text. Prediction lies in the ZPD of the learner. In order for a learner to predict, it requires that he or she stretches his or her imagination beyond that which is at hand. Thus, Cole's programme involves activities which constitute processes that promote cognitive development. Thus, using the programme for reading would be useful in the school in improving the general quality of classroom teaching and learning.

### **5.4.3. Further research on the cultural consequences of schooling**

This study contributes towards an understanding of the effects of the specific cultural conditions of schooling on learners' learning and cognitive development within the prevailing context of socio-economic and political instability in Zimbabwe. A further research study is recommended, one which would be a more rigorous, systematic and comprehensive investigation which explores the cultural practices and specific traditions of teaching and learning, with a view to understanding the possible consequences of these for learning and cognitive development, and how these practices and traditions impact on learners' performance both within the schooling system and, more broadly, on future social and economic participation.

## **5.5. Conclusion**

The chapter concludes the study that investigated the prevailing conditions of schooling and classroom teaching and learning and their effect on schooling in the context of rural Zimbabwe. Discussion in this chapter revealed how classroom teaching and learning in rural Zimbabwe was adversely affected by local contextual factors and worsened by the prevailing socio-economic and political problems of Zimbabwe. What has emerged from the discussion is the extent to which classroom teaching and learning in rural Zimbabwe has deteriorated, and how the cultural practices, taken up in the specific tradition of schooling have limited meaningful learning activities in the classroom.

The Vygotskian socio-cultural theory used to analyze and explain the consequences of the breakdown of schooling and classroom teaching and learning served to illuminate the negative developmental consequences of this for learners' performance and cognitive development. In a process of overcoming these limitations to schooling, the use of Vygotsky's ZPD has been suggested as one way in which teachers could organise pedagogy in such a way as to assist their learners' learning and cognitive development. Pedagogy informed by Vygotsky's ZPD idea would facilitate meaningful learning activities by helping to situate teaching and learning activity at the appropriate level for cognitive development. Suggestions were offered for the improvement of the quality of teaching and learning in itself in terms of the language of teaching and learning, in terms of the use of group work and literacy and involving learners in designing school codes which they would self-regulate their behaviours, rather than use of corporal punishment in schooling.

These suggestions have been offered on the assumption of some understanding and motivation on the part of teachers that might lead to a transformation from dominant modes of teaching to embrace models that have proved effective elsewhere. It is hoped that, were these suggestions to be implemented with a view to making positive changes, classroom teaching and learning in rural Zimbabwe might experience and benefit from some improvements that may in turn have long term positive effects on learners' learning and cognitive development.

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## APPENDIX A

### Conditions of schooling



The teacher was explaining difficult conditions of schooling. Two classes of Grade Two learners were crowded in one class. The other teacher was away from school attending a work shop organised and sponsored by United Nations Children's Education Fund (UNICEF). Learners were crowded, uncontrollable, noisy and pushing each other for places on the benches. Most learners were without uniforms and shoes.

## APPENDIX B

The use of the ‘telling’ method in Bible studies

Excerpt from Grade Five observation lesson

The teacher goes to the chalkboard where there are questions. The questions are as follows:

1. How many people wrote the story of Jesus’ life?
2. They were M..., M..., L... and J.....
3. The four books they wrote were called the ...
4. Matthew was once a ...
5. Who presented Jesus as the Jewish Messiah?

Teacher: I want us to read the questions on the board. (Only a few hands are raised. A child is nominated and reads the first question with difficulties. The teacher reads the question for the child. The whole class is asked to read the question after the teacher. This was done for all the questions and he continues...).

Teacher: Here are some of the answers for the questions that you will need when answering (He writes the words, tax-collector, gospels, four, Luke Matthew, John...)

Teacher: For numbers 1 and 5, don’t copy the question as it is. For number one, you should say ...people wrote about the story of Jesus’ life. Similarly for number five, you should say... presented Jesus as the Messiah. Do we understand each other!

Learners: (chorusing) yes!

Teacher: Now, I want us to answer the questions before you write. Somebody to answer question number one for us.....

(Learners are drilled on how to answer the questions again, this time, putting the answers the teacher provided. When the learners fail to put the correct answer to the question, the teacher tells them the correct answer).

## APPENDIX C

Interview excerpt about reading approaches and problems of literacy

Interviewer: At grade two levels learners are expected to read and write. I realised that most children in this class are not able to read and write. Why is it so?

Teacher: Teachers have been going to strikes many times last year. You can imagine that some of them did not even do Grade Zero. Plus most of the time we were not in school, looking for money. So I can say these children did not do Grade One properly last year. That's why they are like this. They are better off now, when they came here they were worse than this. I have tried to improve them.

Interviewer: Ok, I noticed that when you teach your learners reading, you read the words on the board and they read after you, then you let them read on their own, do you think this method of teaching is helping your learners to read?

Teacher: Yes, you find at the end of the day, one or two can read some of the words, but the rest... (shrugs), as you saw for yourself as well...

Interviewer: So these learners who are not able to read and write will go on to Grade Three next year?

Teacher: There is no other way, they should go. The next grade teacher will also push them to some level where he can because this is the problem of the whole school.

Interviewer: OK, I noticed that sometimes you said those learners who are not able should just sit and not write, can you explain to me why you were doing so?

Teacher: Is there any use since there is nothing they will write for you? I will be tired and demotivated especially considering that there is nothing that we are paid at the end of the day. Aa, this is tiring, it requires love and determination, otherwise umhn....

## APPENDIX D

Sample of Grade Seven national examination paper

That paper has multiple choice questions, structured and unstructured questions

<b>ZIMBABWE SCHOOL EXAMINATIONS COUNCIL</b>	
<b>GRADE SEVEN EXAMINATION, 2009.</b>	
<b>GENERAL PAPER</b>	
4.	Which of the following believers recognize Jesus as their Saviour? A. Buddhists. B. Christians. C. Muslims. D. Hindus.
5.	A church is referred to as a A. a big building. B. group of Christian believers. C. family of rich people. D. house where a priest lives.
6.	The place of worship for the Jews is a A. Mosque. B. Temple. C. Cathedral. D. Synagogue.
4	(a) How many days did God take to complete creation? _____ [1]
	(b) Name the first two people to who were created by God? _____ [2]
	(c) Why did Cain kill his brother Abel? _____ [3]
	(d) Whose family was saved by God from the flood? _____ [1]
	Total [5]

**APPENDIX E**

## Zimbabwe Grade Seven national examination scale grading

90- 100%-----1

80-89%.....2

70-79%.....3

60-69%.....4

50-59%.....5

40-49%.....6

30-39%.....7

20-29%.....8

0-19%.....9

University of Cape Town

## APPENDIX F

Sample of Grade Seven results of 2006

Results continued to get worse year by year

*ZIMBABWE SCHOOL EXAMINATIONS COUNCIL*  
*CANDIDATE RESULTS LISTING*  
*ZIMSEC GRADE 7 EXAMINATION, NOVEMBER 2006* *page: 623*

ENTRE NO : 095920 GUNGWE PRIMARY

CANDIDATE		SUBJECT		
JMBER	NAME	CODE	NAME	
15	NYATHI THEMBEKILE	0001	ENGLISH	8
		0002	MATHS	7
		0005	GENERAL PAPER	8
		0006	NDEBELE	4
116	PHIRI THEMBELIHLE	0001	ENGLISH	6
		0002	MATHS	8
		0005	GENERAL PAPER	5
		0006	NDEBELE	1
117	SIBANDA LOVELETTA	0001	ENGLISH	7
		0002	MATHS	6
		0005	GENERAL PAPER	6
		0006	NDEBELE	3
118	SIBANDA RUTH	0001	ENGLISH	8
		0002	MATHS	8
		0005	GENERAL PAPER	8
		0006	NDEBELE	4
119	SIPHALI TATENDA	0001	ENGLISH	4
		0002	MATHS	5
		0005	GENERAL PAPER	5
		0006	NDEBELE	1
120	SIRAKALALA,REAL	0001	ENGLISH	3
		0002	MATHS	3
		0005	GENERAL PAPER	4
		0006	NDEBELE	1
121	WADENGA CHELI SIDI	0001	ENGLISH	6
		0002	MATHS	4
		0005	GENERAL PAPER	5
		0006	NDEBELE	1

## APPENDIX F1

Sample of Grade Seven results of 2007

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL				
CANDIDATE RESULTS LISTING				
ZIMSEC GRADE 7 EXAMINATION NOVEMBER 2007				page : 611
CENTRE NO : 095920 GUNGWE PRIMARY				
CANDIDATE		SUBJECT		
NUMBER	NAME	CODE	NAME	GRADE
0101	HLEZA KHAYELIHLE	0001	ENGLISH	3
		0002	MATHS	3
		0005	GENERAL PAPER	4
		0006	NDEBELE	2
0102	KHUPHE YEMKELANI E	0001	ENGLISH	6
		0002	MATHS	7
		0005	GENERAL PAPER	7
		0006	NDEBELE	2
0103	KWELA RUTH B	0001	ENGLISH	4
		0002	MATHS	4
		0005	GENERAL PAPER	5
		0006	NDEBELE	2
0104	LINYANI KEMO	0001	ENGLISH	7
		0002	MATHS	9
		0005	GENERAL PAPER	7
		0006	NDEBELE	9
0105	MAKWATE MARBLE	0001	ENGLISH	6
		0002	MATHS	7
		0005	GENERAL PAPER	7
		0006	NDEBELE	4
0106	MAMBO CHARITY	0001	ENGLISH	4
		0002	MATHS	2
		0005	GENERAL PAPER	4
		0006	NDEBELE	2
0107	MULO TORRANI	0001	ENGLISH	6
		0002	MATHS	7
		0005	GENERAL PAPER	7
		0006	NDEBELE	3

## APPENDIX F2

Sample of Grade Seven results of 2008

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL				
CANDIDATE RESULTS LISTING				
ZIMSEC GRADE 7 EXAMINATION NOVEMBER 2008				page : 624
CENTRE NO : 025920 GUNGWE PRIMARY				
CANDIDATE				
NUMBER	NAME	CODE	NAME	GRADE
0222	SIZISA RENELI OE	0001	ENGLISH	8
		0002	MATHS	7
		0005	GENERAL PAPER	8
		0006	NDEBELE	5
0223	DALE WITNESS	0001	ENGLISH	9
		0002	MATHS	9
		0005	GENERAL PAPER	8
		0006	NDEBELE	8
0224	JILI PROFICIENT	0001	ENGLISH	8
		0002	MATHS	7
		0005	GENERAL PAPER	7
		0006	NDEBELE	5
0225	MAZHALE BUSYMAN	0001	ENGLISH	8
		0002	MATHS	9
		0005	GENERAL PAPER	9
		0006	NDEBELE	6
0226	MGUNI MGCINI	0001	ENGLISH	8
		0002	MATHS	7
		0005	GENERAL PAPER	9
		0006	NDEBELE	8
0227	NCUBE LORD	0001	ENGLISH	9
		0002	MATHS	9
		0005	GENERAL PAPER	9
		0006	NDEBELE	9
0228	NCUBE LUNGANI J	0001	ENGLISH	9
		0002	MATHS	7
		0005	GENERAL PAPER	9
		0006	NDEBELE	6



## APPENDIX G

### Classroom teaching and learning



A Grade One teacher is instructing a group of learners on what they should do during teaching and learning. Most tables were empty because learners were absent. The teacher had a long stick which she used to point to learners and words on the chalkboard. In every class there was such a stick.

## APPENDIX H

Grade five interview excerpt on language use

The teacher was explaining about the language use in teaching and learning where both the language codes of English and Ndebele were used.

Interviewer: You were using a mixture of English and Ndebele languages in your teaching, what explanation can you give about that?

Teacher: The mission of language, in reality for the Grade Fives, we are supposed to use English. Then the mother language should come where you find that learners do not understand what you are talking about. But then if you noted, I was doing a mix of languages because had I used English only throughout, at the end I would be talking to myself. So that problem I talked about that there was no learning for quite some time, it killed the children.

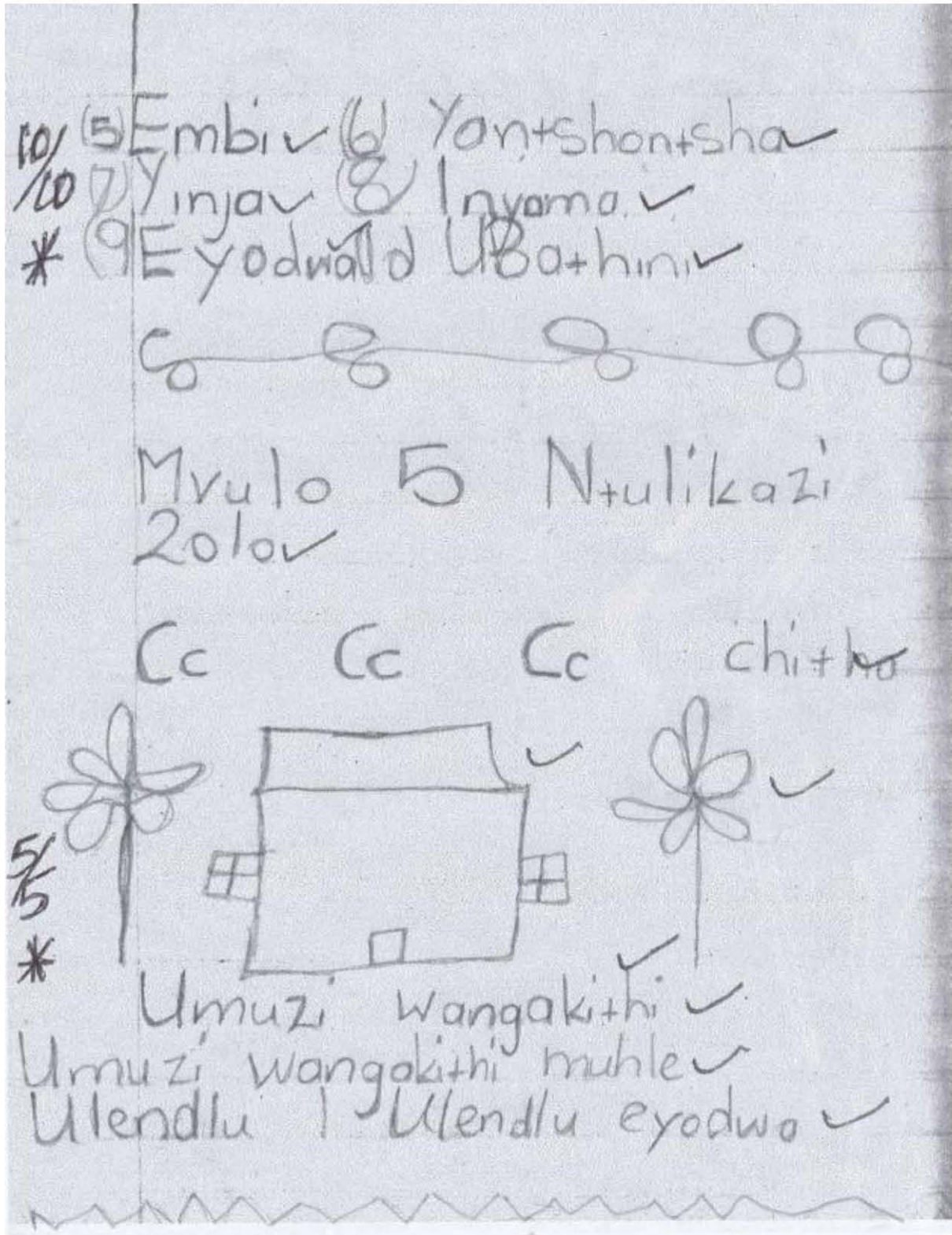
Interviewer: But there is a situation where the subject has terms for its concepts in which one cannot use another language for them. If you use another language, that concept is lost, what do you do to make up for that?

Teacher: Yaa, I understand because in English they say there is no one to one correspondence with other words. You may find that you can explain the concept in English and is understood by an English speaker but when you bring it to our African tradition; you find we don't have that concept. But then in explaining it, unless you show them that here is what I am talking about. Like the tax-collector is something like the messenger of a local chief. We don't have them now. Even if you say it is someone who collects taxes, children do not know about taxes. So you just hope it would end up being understood as you continue teaching.



## APPENDIX I1

Sample of work of the child who was operating at Grade Two level



## APPENDIX J

**THE UNIVERSITY OF CAPE TOWN**

**School of Education**

**E-mail: [NDLSIB015@uct.ac.za](mailto:NDLSIB015@uct.ac.za)**

**Mobile: 071 874 2556**

02 February 2010

The Regional Director  
Ministry of Education, Sports and Culture  
Matabeleland South Region  
P Bag 5824  
Gwanda

Dear Sir/ Madam

### **Request for consent to undertake a research in a school in your province and district**

I am a student at the University of Cape Town doing a Master of Education degree by research dissertation. I hereby request to conduct my research involving classroom observations and interviews in a school in Gwanda district, in Matabeleland South province.

As part of my study, I will sit in several classes for a period of four weeks to observe teaching and learning. This will also be complemented by interviews with selected teachers. I will also observe other day to day activities related to teaching outside the classrooms.

There are no foreseeable risks in allowing this study to be conducted at school level. Though there are no direct benefits to the Region, District and the school. The research may however help in the understanding of the importance of schooling for teaching and learning, general development and cognitive functioning of learners.

Time taken for observations will be at the discretion of teachers participating. Observation and interview period will extend over a period of four months in intervals of one and three months respectively this year. These will be conducted at a time convenient to the teachers involved and as many times as they will wish to participate.

Privacy will be maintained in all published and written data resulting in the study. Confidentiality is also guaranteed for all who would participate at all times and in all academic writing about the study.

Ms Sibonokuhle Ndlovu

## APPENDIX K

**THE UNIVERSITY OF CAPE TOWN**

**School of Education**

**E-mail: [NDLSIB015@uct.ac.za](mailto:NDLSIB015@uct.ac.za)**

**Mobile: 079 5722 935/ 076 6781 522**

2 February 2010

Dear head of school

### **Request to conduct observation and interview research in your school**

I am a student at the University of Cape Town doing a Master of Education degree by Research Dissertation. I hereby request to conduct my research involving classroom observations and interviews in your school.

As part of my study, I will sit in several classes for a period of four months to observe teaching and learning. This will also be complemented by interviews with selected teachers. I will also observe other day to day activities related to teaching outside the classrooms.

There are no foreseeable risks in allowing this study in your school. There are no direct benefits to the school. Though there are no direct benefits to the school, the research may help you understand the importance of schooling for teaching and learning, general development and cognitive functioning of learners.

Time taken for observations will be at the discretion of teachers participating. Observation and interview period will extend over a period of four months in intervals of one and three months this year. These will be conducted at a time convenient to you and your teachers.

If teachers and their learners decide to participate, please, they should understand that their participation is voluntary and that they have the right to withdraw their consent or discontinue participation at any time without penalty. They may refuse to answer any question. Their individual privacy will be maintained in all research reports resulting from the study and they are guaranteed confidentiality through use of pseudo-names at all times in all academic writing about the study.

Photography, video and audio-recording may be requested for different scenes but teachers are at liberty to refuse if they are not willing to have them. Parents are also at liberty to refuse photography, video and audio-recording for their children.

Yours faithfully

Sibonokuhle Ndlovu

## APPENDIX L

**THE UNIVERSITY OF CAPE TOWN**

**School of Education**

**E-mail: [NDLSIB015@uct.ac.za](mailto:NDLSIB015@uct.ac.za)**

**Mobile: 079 5722 935/ 076 6781 522**

2 February 2010

Dear Teacher

### **Request to conduct observation and interview research with you in your school**

I am a student at the University of Cape Town doing a Master of Education degree in Psychology of Education by Research Dissertation only. I hereby request to conduct my research involving classroom observations and interviews with you at your school.

As part of my study, I will sit in several classes to observe teaching and learning for a period of four months, starting with preliminary observation in the beginning of the year and main observations later in the year. This will also be complemented by interviews with selected teachers. I will also observe other day to day activities related to teaching outside the classrooms.

There are no foreseeable risks in participating in this study. Though there are no direct benefits to you, the research may help you understand the importance of schooling for teaching and learning, general development and cognitive functioning of learners.

Time taken for observations will be at the discretion of teachers participating. Observation and interview period will extend over a period of four months in intervals of one and three months this year. These will be conducted at a time convenient to you and as many times as you will wish to participate.

If you have read this letter and have decided to participate, please, understand that your participation is voluntary and that you have the right to withdraw your consent or discontinue participation at any time without penalty. You may refuse to answer any question. Your individual privacy will be maintained in all research reports resulting from the study and you are guaranteed confidentiality through use of pseudo-names at all times in all academic writing about the study.

Photography, video and audio-recording may be requested for different scenes but you are at liberty to refuse if you are not willing to have them.

Ms Sibonokuhle Ndlovu

## APPENDIX L1

### Research consent participant, photography, video recording form

I hereby confirm that:

I have been briefed on the research that Sibonokuhle Ndlovu, student number NDLSIB015 institution affiliation, is conducting a research that involves observations and interviews of teachers. I confirm that terms have been clearly explained to me. I understand that this research is being carried out for an Med by research dissertation at the University of Cape Town. I also understand that this research is conducted purely for academic purposes and that my participation will not pose any risks.

- I therefore understand what participation in this research means. I am willing to be observed during classroom teaching and learning and other activities outside the classroom.
- I understand that my participation is voluntary and I have the right to withdraw my participation in the research any time if I choose to or I feel like.
- I give consent to being photographed and video recorded
- I understand that any information I will share will be held in strictest confidentiality by the researcher.

The extra copy of this consent form is for you to keep.

Signature... *Duse* .....

Date... *18/02/2010* .....

Place... *Cungwe* .....

## APPENDIX M

### THE UNIVERSITY OF CAPE TOWN

#### School of Education

E-mail: [NDLSIB015@uct.ac.za](mailto:NDLSIB015@uct.ac.za)

Mobile: 079 5722 935/ 076 6781 522

02 February 2010

Dear Parent

#### **Request for permission for your child's participation in research involving video and audio recording**

I am a student at the University of Cape Town doing a Master of Education by research dissertation in the field of Psychology of Education. The study involves observing classroom teaching and learning and recording selected lesson activities and voice recording for the purposes of analysis. This will involve video recording and photography of classroom lessons and other outside activities in which your child will be involved.

There are no foreseeable risks in your child participating in video recording and photographing in the study. Though there are no direct benefits to you and your child, the research may help you in understanding the importance of schooling for general development and learning development.

Video recordings and photography will take as much time as per the participants allow and length of event recorded. Video recording and photography will be done at a time convenient to the educator. The whole observation period will extend over a period of four months in intervals of two or three weeks per class.

If you have read this letter and have decided to allow your child participation, please, understand that his/her participation is voluntary and you have the right to withdraw your consent or discontinue participation for your child at any time without penalty. Your child's individual privacy and confidentiality will be maintained and is guaranteed through the use of pseudo-names in all published work and reports resulting from the study.

Thank you

Ms Sibonokuhle

## APPENDIX M1

### Research consent for photography and video-recording for children

I hereby confirm that:

I have been briefed on the research that Sibonokuhle Ndlovu, student number NDLSIB015 is conducting a research that involves video recordings and photography of observations of teaching and learning inside and outside the classroom, in which my child will be involved. I also confirm that terms have been clearly explained to me. I understand that this research is being carried out as an MED by research project at the University of Cape Town. I also understand that this research is conducted purely for academic purposes and that my child's participation will not pose any risks.

- I therefore understand what participation of my child in this research means and I am willing that my child participate in video recording and photography.
- I understand that my child's participation is voluntary and I have the right to withdraw my consent to his/her participation in video recordings and photography any time if I choose to or I feel like.
- I understand that anything my child will share will be held in strictest confidentiality by the researcher.
- I understand that the study will pose no risk for my child's participation

The extra copy of this consent form is for you to keep.

Signature.....*S. Sibanda*

Date.....*19-02-2010*

Place.....*Gugwe*.....

Please print your name.....*Samuel Sibanda*.....

## APPENDIX N

Minor and major themes at fourth level categorisation of data

Recurring patterns	Minor themes	Major themes
<ul style="list-style-type: none"> <li>• Lack of writing material</li> <li>• Lack of electricity</li> <li>• Hunger and poverty</li> <li>• School-community relations strained</li> <li>• Attending workshops</li> <li>• Learner-absenteeism</li> <li>• Poor salaries</li> <li>• Lack of responses to teachers' questions</li> <li>• Group work</li> <li>• Protocol</li> <li>• Lack of discussion in groups</li> <li>• One word or short phrase responses</li> <li>• Authority</li> <li>• Repeating after teachers</li> <li>• Respect</li> <li>• Chorusing</li> <li>• Sticks in every classroom</li> <li>• Incidents of corporal punishments</li> <li>• Drilling, telling, instructions</li> <li>• Teaching from "known to the known"</li> <li>• Use of English and Ndebele</li> <li>• Use of story telling</li> <li>• Favour of "child-centred" approaches</li> <li>• Reading and writing difficulties</li> <li>• Failure</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of Government support</li> <li>• Disruptions</li> <li>• Economic difficulties</li> <li>• Demotivation</li> <li>• Absenteeism</li> <li>• Supplementing teachers' salaries</li> <li>• Collapsed infrastructure</li> </ul>	<p>Conditions of schooling</p>
	<ul style="list-style-type: none"> <li>• Lack of participation</li> <li>• Respect</li> <li>• Protocol</li> <li>• Sticks in classrooms</li> <li>• Corporal punishment</li> </ul>	<p>Influence of culture</p>
	<ul style="list-style-type: none"> <li>• Empirical and concrete modes</li> <li>• Telling modes</li> <li>• Group work</li> <li>• "Child-centred" approaches</li> <li>• Language of teaching and learning</li> </ul>	<p>Classroom teaching and learning</p>
	<ul style="list-style-type: none"> <li>• Literacy problems</li> <li>• Grade Seven failure</li> <li>• 3% pass rate</li> </ul>	<p>Consequences of teaching and learning</p>