

**An Exploration of Three Rural Teachers' Practices on the use of English as a Language  
of Learning and Teaching (LOLT) when teaching Geography.**

**By**

**Lucky Nkosikhona Mahlaba**

**205523866**

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**University of KwaZulu-Natal**

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## Declaration

I, Lucky Mahlaba, declare that:

The research reported in this thesis, except where otherwise indicated, is my original research.

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Student Name: Lucky Mahlaba

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Student signature:

Supervisor's Signature

## **Dedication**

This Thesis is dedicated to my late mother, Tombi Margaret Mahlaba. Even though your body is no longer with us, your family, I believe that your spirit is still with us to protect and guide us. You are and will be remembered forever. May your soul rest in peace.

## **Acknowledgement**

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## **Abstract**

The purpose of this study is to explore the teachers' practices on the use of English as a Language of learning and teaching (henceforth LOLT) when teaching Geography in three secondary schools located in rural areas in the uMshwathi District of KwaZulu-Natal. Three participants teaching Geography at the FET level in these three rural school contexts were selected using a purposive sample method. This research seeks to answer the three following critical questions: What are teachers' challenges of teaching Geography in rural schools using English as a LOLT? Secondly, what are teachers' practices of teaching Geography using English as a LOLT? Thirdly, how do teachers' practices facilitate the learners' understanding of Geographical concepts using English as a LOLT? This study lends itself to an interpretivist approach as it aims to understand the challenges and teachers' practices on the use of English as a Language of learning and teaching (LOLT) when teaching Geography to ESL learners. Three principles of Geography discourse by Naidoo (2013) were used as a conceptual framework of this study. The semi-structured interviews and classroom observations have been conducted by a researcher to collect a qualitative data from these three grade ten Geography teachers using a case study methodology. Both deductive and inductive approaches to data analysis were adopted to analyse findings using themes that have emerged from the data and three principles of Naidoo's (2013) of Geography discourse.

The findings showed that most ESL learners attending these rural schools find it difficult to acquire Geography content knowledge presented in English. Some of the factors that contribute to this include learners' poor capability to speak/understand English, work volume and the number of concepts used in the subject Geography, teaching strategies used by the teacher to conduct a lesson and the environment in which the learners are located. As a result of these factors and experiences, learners remain silent during lessons where English is used to teach the learners. They also give their answers in chorus whenever the teacher poses a question in English. Consequently, these learners obtain poor results when assessed in English during tests and examinations.

Therefore, this study recommends that the South African Department of Education organises more formal workshops based on teaching English Second Language teachers about different ways or strategies of teaching ESL learners whose competency in English is very poor.

## Abbreviations/Acronyms

CS	Code Switching
DoE	Department of Education
ESL	English Second Language
ESLL	English Second Language Learners
FETL	Further Education and Training Level
KIE	Kenya Institute of Education
LOLT	Language of Learning and Teaching
OECD	Organisation for Economic Co-Operation and Development
OHP	Overhead projector
SGB	School Governing Body
TIMSS	Trends in International Mathematics and Science Study
PE	Port Elizabeth

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# **CHAPTER 1: INTRODUCTION**

## **1.1. Introduction**

This study aims to explore teaching practices of rural educators regarding the use of English as the language of learning and teaching (LOLT) when teaching Geography. Hence, this chapter aims to outline the context of this study by presenting the rationale and purpose for the study. The background of the study is also clarified in the later part of this chapter. Likewise, the objectives of the study as well as research questions that guide this study will be expounded. Furthermore, an overview of the literature review and methodology of this study will be presented in this chapter. Lastly, a concluding statement which summarizes areas that encapsulate this chapter will also be included.

## **1.2. Rationale and purpose of study**

The purpose of this study is to understand practices of rural teachers regarding the use of English as a LOLT when teaching Geography. This study is driven by different imperatives. The first is based on my teaching practices as a Geography teacher teaching in a semi-rural context. This motivates me to reflect on the challenges experienced by Geography learners whenever they are learning Geography through the LOLT. Secondly, this study is motivated by issues raised in extant literatures that showcase difficulties experienced by both teachers and learners who teach and learn Geography using English as a LOLT in rural schools. Lastly, there is a need to see how to discover ways of resolving problems encountered in using English as a LOLT in teaching Geography, as found in different subjects and context not limited to rural areas in South Africa. The choice of the subject Geography in this study is due to my own experience and interest as a Geography teacher. This suggests that it is not only Geography teachers who experience challenges when conducting their lessons using English as a LOLT. In other words, challenges can be experienced in any subject where a second language is being used as a LOLT.

Adler and Reed (2002) argue that the use of any second language as a LOLT is not only a complicated matter in rural classrooms but could be challenging in any classroom where learners are not being taught in their main language. The authors contend that teachers are faced with a challenge that even though learners do not fully understand English as a LOLT they still need to create opportunities that allow them to hear and use this language (Adler and Reed, 2002). This suggests that it is very crucial that learners are taught in English since most of them only hear or use this language in the classroom (Brock-Utne, 2006). Therefore, one can deduce that learners need to be exposed to English so as to be able to use it to form a dialogue with their teachers (Sonkoro & Jabawari). Consequently, this can somehow enhance learners' English proficiency which as a result can benefit the learner to easily use the language in preparation for exams or any English related assessment (Adler and Reed, 2002).

As a Grade 10 Geography educator teaching in a semi-rural school context as mentioned above, I am interested in inquiring why most Grade 10 learners are underperforming in Geography. I am eager to conduct research on practices of rural Geography educators on the use of English as a LOLT when teaching Geography. My own practices on the use of English as a medium of instruction in teaching Geography within a rural context will also add insight into this study. Considering my personal experience of teaching Geography in a semi-rural school context, I observed that the use of English as a LOLT is one of the possible contributing factors in slowing down the process of Geography learning amongst rural learners. This is because I have noticed that most learners speaking English as their second language, especially those who come from environments where English is not used for communication, find it difficult to interpret and comprehend Geography concepts (Geographic technical terms) when using English. The concept 'technical terms' here refers to scientific concepts or vocabulary specifically used in a particular field or subject (Gelman, 2009). Thus, Geographic technical terms refers to all Geography related concepts used in the Geography curriculum. On the other hand, the term vernacular refers to the indigenous language often used in informal situations in which a learner is the most proficient (Volster, 2008).

The foregoing challenges related to the usage of English when learning Geography are often visible in the way learners respond during classwork and homework. Their answers on these exercises often reflect lack of understanding or poor comprehension of the question itself.

For instance, many learners in the school that I am currently teaching at are not performing very well in almost all subjects taught in English. They usually fail to explain ideas or concepts used in subjects offered in English. That is, they often depend on memorising concepts and their definitions without understanding them. This is usually evident during Grade 10 Geography lessons or in any lesson that is taught through the medium of English. It is also manifested in answers they give during Geography quizzes, assignments, projects, tests and exams. Notably, they are not fluent in English and only understand it partially. Thus, it is difficult for them to comprehend concepts used in Geography as a subject.

English, which is used as a Language of learning and teaching (LOLT) is neither the educator's nor learners' mother tongue. It is not difficult then to infer that educators too face enormous challenges regarding the use of English as a LOLT (Brock-Utne, 2006). Correspondingly, Malekela (2006) points out that one of the reasons for poor performance in English related subjects amongst English second language learners is poor English competency amongst teachers. The author argues that most of the rural ESL teachers do not teach comfortably and very well in classrooms where English is required when conducting a lesson (Malekela, 2006). That is, their English vocabulary is usually not adequate to make them teach confidently and competently using English as a LOLT (Brock-Utne, 2006). They only become more relaxed when teaching using their mother tongue or using teaching practices such as code-mixing or code switching (Brock-Utne, 2006). When using these teaching practices they can even crack jokes related to the topic taught thereby gaining more attention from the learners (Brock-Utne, 2006).

Apart from that, Dong (2002) in a study based on teaching Life Sciences to ESL learners observed that learners are not only faced with a barrier of language communication, but also have the problem in assimilating new concepts often used in the subject content. It can be noted that here learners are faced with two crises, namely, an impediment in acquiring the LOLT as well as failing to comprehend the subject content (Dong, 2002). Furthermore, 'Trends in International Mathematics and Science Study' henceforth TIMSS, (2011) reports that during this study, many selected countries that consisted of learners who hail from families where the language used for communication was other than the language of testing, performed very poorly in both Mathematics and Science tests. This suggests that they could

not understand some of the questions asked in English hence interpreted them incorrectly or left them unattended (TIMSS, 2011).

Therefore, considering the aforementioned and seeing the dynamic nature of the South African educational system, one can infer that more research is required to seek for more effective solutions or strategies to improve skills in the use of English as a LOLT when teaching subject content, specifically Geography. Hence, the focus of this study is on three rural teachers' practices on the use of English as a Language of Learning and Teaching (LOLT) when teaching Geography.

### **1.3. Background to the study**

English is the commonly used medium of instruction in many South African schools (Simasuku, Kasanda and Smith, 2014). Research in South African rural schools has been conducted on teaching Science subjects namely Mathematics, Physical Sciences and Life Sciences using English as a Language of learning and teaching (LOLT) (Setati, Adler, Reed & Bapoo, 2002). It has shown that the effect of language for conceptualization and reasoning when teaching as well as learning is immense (Landsberg, Kruger & Nel, 2005). This is because every subject in the curriculum has a specialized set of concepts (technical terms) that it uses besides the everyday used language of communication. An understanding of specialized terminologies (technical terms) relies on the proficiency or command of that particular language used to teach the subject (Simasuku, Kasanda and Smith, 2014).

Zuma (2006) observed that many learners from South African rural schools who undertake Mathematics and Physical sciences as subjects are faced with a crisis of language barrier in their learning. The author asserts that the language barrier in their learning hinders their chances to comprehend the content of the subject. Furthermore, Lee and Fradd (1998) argue that ESL learners in the Science curriculum including those that are doing Geography as their subject are not only expected to understand the subject content but must be able to observe, predict, analyse, summarise and present information based on that subject in many different ways. This becomes a problem if the learner is not competent in the LOLT. Thus, it is of

paramount importance to master the language used for both learning and teaching the curriculum (Simasuku, Kasanda and Smith, 2014).

According to Fang (2005), it has been evident that within South African rural schools, poor English proficiency levels amongst learners is one of the factors that contributes to failure or lower performance in Science streams. This crisis is usually manifested amongst schools whose enrollment consists of learners who speak English as their second language (Simasuku, Kasanda and Smith, 2014). In these schools, learners who have never been taught adequately through English from lower Grades struggle to comprehend learning content and concepts when taught in English at higher Grades. These learners find it difficult to maintain progressive learning experiences because of gaps created by their inability to understand the language of instruction. With regard to that, one can infer that English can be a serious impediment to both learning and teaching of many subjects including Geography amongst English second language learners (ESL) in South Africa.

Furthermore, Thornton (2005) argues that, for effective curriculum delivery, the teaching and learning of certain Science subjects, for instance Geography, requires innovation and constant creativity on the part of the teacher in the ever changing school curriculum system. The author noted that there are challenges encountered when English is used as a medium of instruction to teach Geography amongst ESL learners in rural schools (Thornton, 2005). That is, Geography teachers, as mediators of learning, are expected to teach and explain Geographical concepts (technical terms) to learners in a way that they become clear and understandable. This may become difficult due to some complex Geographical concepts (technical terms) that require in-depth explanation and high proficiency in English amongst learners so as to be understood clearly (Obasi, 2011).

Therefore, one can deduce that to overcome the challenges experienced by both teachers and learners during lessons, teachers are expected to adjust the use of English in a way that it suit learners' level of understanding. This suggests that teachers have to simplify their explanations of complex concepts (technical terms) by using simple English which as a result could possibly compromise learners' understanding. Also, they have to speak very slowly when using English as well as ensure that they repeat the sentences constantly (Brock-Utne, 2006). Thus, one can infer from the foregoing that during classroom lessons teachers are

faced with a double challenge of trying to teach the subject content to learners while at the same time teach in a way that learners do not struggle much to understand the LOLT (Taylor & Prinsloo, 2005).

Inferring from the ongoing research, one can deduce that it is clear that there are many challenges encountered by both ESL educators and learners in the use of English as a medium of instruction in South African rural schools. Therefore, the identified abovementioned challenges inherent in using English as a LOLT amongst ESL educators and their learners provide the premise that grounds the need for the current study.

#### **1.4. Objectives of the study**

The objectives of this study are as follows:

To **explore** teachers' challenges of teaching Geography in rural schools using English as a LOLT.

To **identify** teachers' practices of teaching Geography using English as a LOLT.

To **analyse** in what ways do teachers' practices facilitate the learners' understanding of Geographical concepts using English as a LOLT?

#### **1.5. Research Questions**

This study will be guided by the following three research questions, namely:

1. What are teachers' challenges of teaching Geography in rural schools using English as a LOLT?
2. What are teachers' practices of teaching Geography using English as a LOLT?
3. How do teachers' practices facilitate the learners' understanding of Geographical concepts using English as a LOLT?

## **1.6. Overview of related literature and conceptual framework**

English is the only language used as a medium of instruction or international language in the whole world (Simasuku, Kasanda and Smith, 2014). Most South African schools also use English as a medium of instruction for the purpose of learning and teaching to take place (Parker, 1993 cited in Landsberg, Kruger & Nel, 2005). This suggests that many parents have wanted their children to be taught in English since the language is perceived as a common language of social interaction (Cummins, 2000). Learners whose English proficiency is very high are believed to be much more likely to climb the economic and corporate ladder higher and quicker than their counterparts who are not proficient in this language (Cummins, 2000, Probyn, 2009).

However, there are many challenges associated with the use of English as a language of learning and teaching (LOLT) when teaching curriculum to English second language learners in South African schools. Mullar (2007) contends that many rural learners experience barriers to learning due to the language of instruction. Although learners and their parents may have wanted English to be used as a language of learning and teaching, there is still little support from teachers and parents offered to learners to master English (Simasuku, Kasanda and Smith, 2014). With regard to that, one can infer that it is highly likely that during classroom lessons, learners do not comprehend instructions conveyed in English. Therefore, when trying to overcome the above-mentioned challenges that take place daily in classroom lessons where English is used as a LOLT, learners resort to rote learning or parroting. They also give one word answers when asked questions or remain silent throughout the lesson (Brock-Utne, 2006). Consequently, whenever they are assessed in English they fail or produce poor results (Cummins, 2000).

Furthermore, in many South African schools, teachers are faced with a dual challenge of teaching both the content of their subjects as well as the language used in the subject content (Mullar, 2007). As a solution to this crisis, they resort to code-switching as one of the teaching practices for a meaningful and an effective lesson (Mullar, 2007). According to the authors, this pedagogical practice is beneficial in the classroom in a sense that it facilitates the process of teaching and learning amongst teachers and learners (Simasuku, Kasanda and Smith, 2014). That is, when the educator switches from his/her mother tongue to the second

language, for example, Zulu to English or vice versa she/he promotes an active involvement of learners throughout the lesson (Simasuku, Kasanda and Smith, 2014). This suggests that learners can be able to easily ask questions using their main language or use code switching should they need clarity during the lesson (Adler & Reed, 2002). Consequently, learners will possibly understand the subject matter better (Simasuku, Kasanda and Smith, 2014).

Apart from the aforementioned discussions, an empirical study based on teaching Social Sciences in a rural combined school in Port Elizabeth district at Kwazakele, reports that school stakeholders in this school have chosen to use both IsiXhosa and English as their LOLT. It is reported that their learners were unable to express themselves in English or to comprehend English Social Science concepts (technical terms) (Pluddeman, Shale & Wababa, 2005). The authors further stated that these learners could not understand most of the content during Social Science lessons (Pluddeman, Shale & Wababa, 2005). To resolve this challenge, during lessons educators resorted to code-switching. That is, they switched from English to IsiXhosa or vice versa so as to facilitate the process of teaching and learning (Pluddeman, Shale & Wababa, 2005). Consequently, fruitful and meaningful lessons were achieved (Pluddeman, Shale & Wababa, 2005). When teachers used code switching, learners were able to comprehend what was taught during the lesson, thus turned out to be more participative (Pluddeman, Shale & Wababa, 2005).

Furthermore, Zuma (2006) argues that learners who are not proficient in the LOLT when asked a question in English begin by translating the question into their mother tongue. This suggests that they do this so as to try and understand the question in order to formulate the answer into English (Zuma, 2006). The author argued that the weakness in this practice is that essential meaning is lost during the translation which as a result leads to incorrect meaning when translating and relating into English (Zuma, 2006). As a result, one can infer that Geography lessons in South African context particularly in rural schools, experience similar shortcomings within the classroom context which then as a result affect the overall school performance in Geography as a subject.

## **1.7. Conceptual Framework**

The conceptual framework that has been selected to support this study comprised of three principles of Geography discourse. That is, the observation and description of the phenomena in the social world through technical terms (formal scientific concepts) (Wignel et al. 1993 cited in Naidoo, 2013). Secondly, naming and organising of the Geographical phenomena using principles of superordination or composition. Lastly, the ordering and naming of the social phenomena using the implication sequence of cause and effect (Wignel et al. 1993 cited in Naidoo, 2013).

The aforementioned principles will be used in conjunction with concepts that are also appropriate in describing how teachers teach geography using LOLT in rural schools. Also, how do teachers use code switching as one of their teaching practices to teach English second language learners during Geography lessons. The concepts that will be utilised with the foregoing principles include bilingualism and multilingualism. Therefore, this study has used all these concepts as tools to analyse the data collected through classroom observations and interviews. These concepts were also used in relation with the aforesaid key research questions.

## **1.8. Overview of the methodology**

An interpretivist paradigm has been adopted in this study. Also, a qualitative research approach and a case study methodology have been selected to explore teachers' practices on the use of English as the LOLT when teaching Geography. This methodology has been used to respond to the research questions formulated from the research topic of this study. The case study methodology comprised of three cases of Grade 10 Geography teachers obtained through purposive sampling from three different school sites has been utilised to collect well detailed and in-depth information from participants. According to Ary, Jacobs, and Razavieh, (2002, p.22) "qualitative research focuses on understanding social phenomena from the perspective of the human participants in the study". That is, a researcher relies on the views of participants, ask broad general questions to collect data which largely consist of words or texts from participants, (Cresswell, 2007).

Therefore, this study has utilised the aforementioned methodological approach to observe and interview Geography teachers about their teaching practices when teaching Geography using English as a LOLT. That is, semi-structured interviews and classroom observations have been used as methods of data collection for this study. The participants of this study consisted of three experienced teachers teaching Geography in grade ten in schools under uMshwathi municipality. Two participants from my neighbouring schools (teachers with experience or qualifications in teaching Geography in grade 10) were identified. The other participant was selected from the school that I am currently teaching at. Therefore, in this research a purposive / convenient sampling approach has been adopted.

## **1.9. Overview of the Dissertation**

In this chapter, a brief overview of the rationale for conducting this study was provided. A proposal to explore practices of rural Geography educators on the use of English as a LOLT when teaching Geography was undertaken.

Chapter two is the literature review based on this study. In this chapter, the focus was on past, recent or current literatures based on teachers' practices when using English to teach Geography. It also discussed and outlined different literatures on the use of English (LOLT) when teaching Science subjects like Geography to ESL learners. A conceptual framework related to this study was also explained.

In chapter three, research approach and methodology were explained. A qualitative research approach was described and discussed displaying its relevance to the study. Data collection methods comprised of classroom observations and semi-structured interviews were discussed as well as explained so as to show how they would generate rich data. A discussion based on the selection and importance of case study approach, purposive sampling, trustworthiness as well as ethical consideration was undertaken.

In chapter four, the findings of the study were presented and analysed using both the inductive and deductive approaches. The deductive approach based on Naidoo's (2013) three principles of Geography discourse was used to organise and analyse the data collected through classroom observations.

In chapter five, findings for all three research questions were summarised, discussed and the conclusion was made.

## **1.10. Conclusion**

This chapter has outlined the rationale, the purpose of the study and background of the study. The objectives of the study as well as research questions that guide this study have also been discussed. An overview of the literature review and methodology of this study have also been presented in this chapter. Therefore, it is envisioned that this study will contribute knowledge on the use of English as a LOLT in teaching Science subjects particularly Geography curriculum to South African second English language learners. Next is an in-depth description of the literature review related to this research study addressing some of the gaps and challenges faced when teaching Geography to ESL learners in rural schools.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1. Introduction**

The purpose of this study is to understand the rural teachers' practices on the use of English (LOLT) when teaching Geography. Therefore, this chapter provides an in-depth report of the general literature on the use of English as a LOLT and code switching as one of the teaching practices used when teaching using English. The chapter begins by giving a brief background of the current South African Language policy in the education system. The views, beliefs, challenges and successes or any practices of rural educators on the use of English as a LOLT when teaching Geography were also discussed in this chapter. Hence, the main aims of this chapter are to present, review, and outline the researched literature that is related to this study. This has been done by drawing cases based on the use of English as a LOLT when teaching curriculum in general and Geography content in specific in different countries all over the world.

Moreover, this chapter intends to provide a summary of how this study addresses gaps, silences or weaknesses in the existing literature related to this study. In addition, the conceptual framework of this study is comprised of three principles of Geography discourse (Naidoo, 2013). These principles have been used in conjunction with two concepts that relate to the use of English as a LOLT and code switching as one of the teaching practices used in an English Second Language classroom. These include bilingualism and multilingualism. All concepts that have been used with an intention to answer three research questions pertaining to this study were discussed in this chapter.

### **2.2. The Current Language policy in South African Education system**

The South African language policy currently in use has been established from the Language policy in Education of 1997 (DoE, 2006). The Language policy in Education of 1997 promotes that learners maintain their home languages in the early years of learning while accessing the additional languages (DoE, 2006). Therefore, the present language policy in use

in South African education system indicates that on school admission, the learner/ parent ought to choose the language in which the learner must be taught in. This policy emphasizes that the School Governing Body (henceforth SGB) should take into consideration how the school context will promote multilingualism amongst learners (DoE, 2006). That is, one of the things the current policy regard as crucial when appointing educators is that the SGB ensures that the appointed educators can teach using both the indigenous languages (learners' home languages) as well as their second language (mostly English language). This is aimed at catering for almost all the variety of learners enrolled at that particular school (DoE, 2006). In other words, this policy promotes that all the eleven official languages available in South Africa must be learnt in schools as long as they are learners who want to learn them and educators to teach them to the learners (DoE, 2006).

The current language policy in South African education further indicates that mother tongue education shall take place from grade R up to grade three (DoE, 2006). This is intended to develop both reading and writing skills amongst minor learners which then prepares them to easily acquire the second language (DoE, 2006). The policy also indicates that most parents have chosen English as a LOLT from grade 4 up to grade 12. This is because English is perceived as a global language of communication as well as the gateway to job opportunities (Probyn, 2009).

### **2.3. The Language of learning and teaching (LOLT) and its importance in teaching Geography**

Mokotedi (2011) defines Geography as a science concerned with places where people live. Geography also aims at understanding human habitat and the relationship between humans and their habitat (Mokotedi, 2011). Additionally, Geography focuses on how people are distributed within their environments as well as how they utilise time and space. Obasi (2011, p.23) contends that Geography, in investigating places, landscapes, and many such issues, also serves as “a creative, problem solving, practical and intellectually stimulating school subject.” Similarly, Firth (2007) argues that Geography teaches appropriate skills to learners which help them to value, take care of their own environment, as well as be able to interpret the way nature works. In the same way, the Kenya Institute of Education report

(KIE, 2008) confers that Geography is very influential in developing the knowledge of learners on environmental changes which as a result allows them to make informed judgements regarding the maintenance of their environments. Therefore, for individuals to develop an effective Geographical comprehension of their environment there are many skills and techniques which need to be acquired. These include “techniques for observation such as remote sensing and field observation, as well as methods of analysis and display of Geographic data including: cartography, visualisation, spatial statistic and Geographical information systems” (National Research Council, cited in Pile & Smyth 2003, p.28).

In other words, it is important for learners who are studying this subject to understand the content, concepts and terminologies used in this subject so as to try and make sense of the world they live in. For example, acquisition of the LOLT adequately amongst learners can facilitate a better understanding of Geographical concepts and terminologies such as “densely populated” or “sparsely populated” often used in “population Geography”. Learners may, for instance also understand other factors which lead people to leave their settlements such as the scarcity of job opportunities, economic pursuits, community development and so forth, (Mokotedi, 2011). Thus, it is of fundamental importance that learners first master the LOLT in order to comprehend all school subjects taught in English. In addition, the Topographical map, Ortho-photo, Aerial photography as well as the conventional signs’ lessons to help learners to acquire map reading skills, may not be effective if learners do not have sufficient skills to be proficient at English (Mokotedi, 2011). Notably, the acquisition of all these Geographical terms (technical terms) is highly dependent on learners’ English proficiency as well as the pedagogical strategies educators use when presenting Geography lessons.

According to Webb (2011) language is an extremely important tool necessary for getting a learner to acquire knowledge. The learners’ development of academic growth and their social skills as well as psychological development are also dependent on language acquisition (Webb, 2011). The use of language here refers to the preferred language through which educators and learners communicate during the learning and teaching process. In most South African schools the language of learning and teaching is English. This language is often not the learners’ home language nor educators’ language (Webb, 2011). However, in many South African schools the process of learning and teaching takes place through the second

additional language. One therefore cannot over emphasize the critical role that effective use of such acquired language plays in the learning and teaching of Geography as a subject.

Against the above background, the “Department of Education places great emphasis on the early acquisition of the LOLT as part of its national initiative” (Organisation for Economic Co-Operation and Development henceforth OECD, 2008, p.188). In other words, a high proficiency in the LOLT is very crucial for learners to be able to learn and communicate using this language. Observably, poor transition from mother tongue education (henceforth MTE) to English as a LOLT at primary school level could possibly produce learners with poor English proficiency at the Further Education and Training (henceforth FET) level. Subsequently, this will impede the learner’s ability to understand subjects taught in English at the FET. As such, an intensive training, more especially amongst primary educators on the use of a LOLT when teaching learners, is of utmost importance (OECD, 2008).

Notwithstanding the above, it is an observable phenomenon that many teachers particularly rural school teachers lack the training, knowledge, tools, skills and even time to support and facilitate the learning of English amongst their learners, despite the fact that English is their LOLT. This makes both learners and their teachers less proficient in English, which then translates to other subjects like Geography (Nel & Theron, 2008). This study does not limit itself to arguments on the use of English at the primary education level when teaching learners as extant studies have done. It goes further to interrogate teachers’ practices on the use of a LOLT as it affects learning at the FET particularly in Grade 10.

#### **2.4. The use of code switching to teach Geography curriculum in a rural school context.**

Cyparsade, Auckloo, Belath and Dookhe (2011) note that the learning and teaching of Science subjects, particularly Geography, requires sufficient literacy skills and adequate proficiency in the LOLT. Correspondingly, Simasuku, Kasanda and Smith (2014) contend that learners can only progress successfully in their school subjects if they are confident and proficient in the language of learning and teaching. This suggest that, without a proper

acquisition and competency in the language of learning and teaching learners can find it very difficult to comprehend Science content when taught in English (Cyparsade et al, 2011). Similarly, Barkhuizen (2006) maintains that due to a lack of competency in English amongst rural learners and sometimes lack of English terminology and proper subject content knowledge from teachers, educators often resort to code switching (henceforth CS) as an academic resource to cater for this crisis. Cook, Milroy & Muysken, (1995) argue that code-switching is often used by teachers in an English second language classroom so as to facilitate the process of teaching and learning. These authors explained that code switching encompasses switching from one language to another language known by both a teacher and a learner in a classroom discourse to facilitate the process of learning and teaching (Cook, Milroy & Muysken, 1995). During this process, it is of vital importance that the teacher is proficient in the learners' mother tongue and in the language of learning and teaching (LOLT) (Cook, Milroy & Muysken, 1995). This will help to enhance the learners' comprehension of concepts used in the subject while at the same time develop the learners' proficiency in English (LOLT) (Cook, Milroy & Muysken, 1995).

A study conducted by Adler and Reed (2002) on code switching contends that code switching is one of the very good teaching practices when used effectively. For example, if a teacher asks a question to a learner in English and could see that she/he struggles to give a proper answer in English, allowing the learner to give an answer in his/her mother tongue makes her feel more confident (Adler and Reed, 2002). Therefore, an answer that the learner gives using the home language must be translated by a teacher into English so as to encourage learners to use English as they need it when answering exams/tests written in English (Setati, 1996). Also, the translation of an answer uttered by a learner from the learner's home language to English (LOLT) will also help learners to learn correct English concepts to use whenever the same question/topic arises during a test or an examination (Setati, 1996).

Correspondingly, Diaz (1983 cited in Simasuku, Kasanda and Smith, 2014) contends that the use of code switching as a teaching practice in an English second language classroom produces good learning outcomes amongst ESL learners compared to English only classroom comprised of ESL learners. However, a major problem associated with code switching is that teachers usually end up spending too much time using CS during their lessons. This leads to

learners achieving very little in terms of academic language proficiency and the assimilation of new concepts (technical terms) (Simasuku, Kasanda and Smith, 2014).

Furthermore, the research conducted by Moloji (2010) on colloquial language in schooling system reports that learners whose LOLT is same as their home language and from good socio-economic context tend to perform very well in their school subjects comparatively to those whose LOLT is their second language and live in poor socio-economic context. Similarly, OECD (2008) contends that learners more especially at the senior phase whose LOLT is their home language and taught by a teacher whose mother tongue is same as that of the learners have an added advantage in learning. In other words, learners easily acquire knowledge or information given in the language similar to their mother tongue. Thus, this impact positively on learning and helps learners understand the subject matter better than those who learn the same subjects in their second language (OECD, 2008). Probyn,(2009) further supported this by arguing that in the classroom where teachers and learners share a home language which is not the LOLT, there is a gap between the language policy and the practise. As a result, code switching is often used by both teachers and learners as a strategy to achieve both social and pedagogical goals (Probyn, 2009). Therefore, this suggests that the use of English as a LOLT to teach Geography to English second language learners hinders their ability to comprehend Geography concepts effectively.

Regarding the foregoing discussion, one can presume that there are some possible factors based on difficulties faced by both learners and their teachers during the process of learning and teaching using English as a LOLT. That is, most rural learners often come from poor socio-economic environments where English is not frequently used or not at all used for communication. Also, environments in most rural schools do not promote English proficiency amongst learners. For example, learners communicate through their mother tongue in and outside classrooms. In most cases they copy this practice from their educators who also frequently communicate with them through their mother-tongue both in and outside the classroom. Consequently, this causes learners to frequently stumble and fumble when reading or trying to express themselves in English. As a result, learners lose confidence to participate in lessons where English is used as a LOLT (Lafon, 2008).

## **2.5. Empirical studies based on teaching using English as a Language of Learning and Teaching.**

There are not many studies that focus specifically on the teaching of Geography in South Africa. One study on the teaching of Geography using English as a medium of instruction at a rural combined school located at Kwazakele Port Elizabeth district, was also reviewed (Pluddeman, Shale & Wababa, 2005). This study indicates that all stakeholders of this school have collaboratively chosen to use both English and IsiXhosa as languages of learning and teaching in this school (Pluddeman, Shale & Wababa, 2005). Vorster (2008) argues that in most South African multilingual classrooms, two or more languages are used to teach learners so as to facilitate the process of learning and teaching. That is, an indigenous language (learners' mother tongue) and English (LOLT) are used interchangeably during the lesson. The usage of learner's home language helps to develop an interaction between learners and the teacher while enhancing the learner's English proficiency (Vorster, 2008). This study suggests that the use of both English and IsiXhosa had been due to observations on the inability of learners to express themselves in English or to comprehend what is being taught during the English based lessons. Consequently, to enable the process of learning and teaching, teachers often switched from English to IsiXhosa since IsiXhosa was the mother tongue of both learners and teachers. According to this study, the survey among Grade 8 to Grade 10 pupils reveals that almost all lessons were introduced in English. As the lesson proceeded the teacher will immediately switch between English and IsiXhosa for meaningful learning and teaching (Pluddeman, Shale & Wababa, 2005). For example, one of the selected questions posed to learners during the Geography lesson in Grade 10 was "What is meant by the word physical in a phrase "physical structure of a mountain"? According to the authors, the learners took time to respond or show confidence to answer this question until the teacher asked the question in their home language, "*Lithetha ntoni eligama lithi "physical" esiXhoseni?*" After this translation one of the learners responded, "*It means how the mountain looks*" (Pluddeman, Shale & Wababa, 2005, p.127). This suggests that rural learners who speak English as their second language usually find it difficult to comprehend lessons delivered in English. Therefore, one of the key findings of this study was that the use of code switching in classrooms comprised of ESL learners eases the process of learning and teaching. That is, during classroom lessons learners easily understand when the piece of

information taught to them is converted from the second language to their home language (Pluddeman, Shale & Wababa, 2005).

Furthermore, Zuma (2006) observes that when learners who are not proficient in the LOLT are being asked a question, they begin by translating the question into their mother tongue so as to understand it and formulate the answer into English. Correspondingly, this had been observed amongst Grade 10 learners during Geography lessons in my school. When I ask Geography related questions in English, learners take time to respond to questions. From this act, one can deduce that they start by translating the question into their mother tongue before attempting to give an answer in English. Zuma, (2006) argues that the weakness in this practice is that essential meaning is lost during the translation. Another example, in one of my Geography lessons with Grade 10 is that, I asked learners to interpret the sentence “the weather is too hot today.” One of the learners gave me an answer in Zulu saying “*liyashisa ilanga namhlanje*”. When I asked him to say it in English he said “*the sun is hot today*”. This translation is incorrect because geographically the sun is always hot even in winter. Thus, this suggests that most of ESL learners particularly in rural schools do not really express the meaning of certain Geographical terms correctly when translating directly from their home language to English.

Obasi (2011) in a Nigerian study based on urban-rural differentials in learning and teaching Geography to English second language learners (henceforth ESLL) asserts that there is a poor student enrolment in the higher institutions of Geography related courses in Nigeria. He argues that some of the reasons for this include poor pedagogical methods used by secondary school teachers when using the LOLT to convey lessons in Geography classrooms. The author further indicated that most teachers teaching Geography in rural secondary schools have not undergone sufficient in-service training regarding the use of the LOLT to teach Science curriculum (Obasi, 2011). A lack of professional development opportunities has negatively impacted on their ability to cope with the use of different pedagogical methods such as code switching, code mixing, revoicing and so forth (Obasi 2011). The author further contended that, there is still a need to recruit more dedicated Geography educators who are both well trained academically and professionally qualified, (Obasi, 2011). These should be

educators who are very passionate about Geography and have mastered a better way of using technical terms to educate and inculcate the spirit of Geographic inquiry to the learners (Obasi, 2011).

Apart from the above, Hornberger and Chick (2001 cited in Vorster, 2008) argue that another teaching practice that is often used in a Science ESL classroom that encourages learners to participate using English as a LOLT is the self-talk (silent or chorus answering strategy). The authors assert that this practice is based on asking learners the questions, who then remain silent if they do not know the answer or give the answer as a group in a chorus (Hornberger and Chick 2001 cited in Vorster, 2008). They further argued that this teaching technique is called a face saving practice because in the chorus, learners who do not know the answer may hide and act as if they know the answer (Hornberger and Chick 2001 cited in Vorster, 2008). However, one can presume that one of the disadvantages of utilising this teaching practice is that it creates an impression that everyone understand the lesson when they actually not, (Hornberger and Chick 2001 cited in Vorster, 2008). Also, revoicing the learners' answers using simpler English words or correct technical terms can be utilised in a Science ESL classrooms to improve learners' understanding of the content as a whole (Setati and Adler 2000 cited in Vorster, 2008).

Moreover, an empirical study based on investigating a scaffold to code switching when teaching mathematics in a multilingual classroom, reveals that when mathematics' teachers introduce new concepts to learners they begin by explaining using learners' home language (Vorster, 2008, Probyn, 2009). Having utilised that strategy and acknowledged that learners have mastered concepts or the whole content in their home language, the author points out that the teacher will then frequently or repeatedly teaches learners using English formal concepts (technical terms) mixing them with concepts expressed in the learners' home language (code-mixing) (Vorster, 2008). This is done by coining English sentences, phrases, statements and repeats them together with concepts in the learners' home language until learners understand and can easily memorise new English concepts taught to them (Vorster, 2008). According to this study, the use of dual languages (home language together with English) allows learners to participate frequently during the lesson. It also enriches the understanding of the English concepts (technical terms) amongst the learners. This suggests

that an understanding of concepts in the home language gives support to the learning of the same concepts in the second language (Vorster, 2008).

In addition, the dual language strategy (code-mixing) often allows learners to become very active and eager to ask questions using their home language when they cannot express themselves in English during the lesson (Brock-Utne, 2006). By so doing they expand their knowledge in the subject or topic taught (Brock-Utne, 2006). Consequently, when being asked questions related to the lesson they give long answers using their mother tongue (Brock-Utne, 2006). Thus, their uncertainties on any concepts taught or curriculum as a whole will be answered (Vorster, 2008).

## **2.6. Conceptual Framework**

Swanson (2013) defines a conceptual framework as a less well-developed explanation for events comprised of a group of concepts or ideas that guide and frame the research. That is, conceptual framework consists of concepts that are relevant to the research study as well as relating to the existing knowledge concerning the topic being investigated. This study intends to explore and analyse practices of rural educators when teaching Geography using English as a LOLT. The conceptual framework that has been adopted in this study is informed by three principles of Geography discourse (Wignel et al. 1993 cited in Naidoo 2013). These principles have been used in conjunction with two concepts related to the use of English as a LOLT and code switching as one of the teaching practices often used in an English Second language classroom. These two concepts are bilingualism and multilingualism and will be discussed in one of the paragraphs below.

Wignel et al. (1993 cited in Naidoo 2013) have used an aforementioned conceptual framework to form ideas based on Geography discourse as a subject or discipline concerned with the social world. The authors contend that the conceptualisation of Geography as a subject to make order and meaning of the social world is dependent on the observation and classification as well as the explanation of the phenomena being studied (Wignel et al. 1993

cited in Naidoo 2013). Therefore, in order to understand Geography as a subject discipline, learners need to know the technical lexis, how these technical terms are organised into taxonomies and how the concepts are related through implication sequences of cause and effect. I will describe each of these principles in turn.

The first principle to discover the order and meaning of the phenomena within a social world is based on the observation and description of the world through technical lexis. Technical lexis is referring to concepts or phrases that have a specific meaning related to the context or field in which they are used (Wignel et al. 1993 cited in Naidoo 2013). For example, in Geography as a school subject some of the technical terms used to represent landforms are Mesa and Buttes. These technical terms are unique to the Geography content in a sense that they are derived from Latin. Technical terms can also be written in Greek, for instance Geomorphology. This technical lexis is used frequently in the Geography curriculum. It is referring to “the scientific study of the origin and evolution of topographic and bathymetric features created by physical, chemical or biological processes operating at or near the Earth's surface” (Gilbert et. al. 1988, p33). Geographic technical terms can also be borrowed from other Science fields, for example, in Life Sciences. These include condensation and transpiration or taken from vernacular taxonomies, for instance, weather (Wignel et al. 1993 cited in Naidoo 2013).

Furthermore, informal everyday used indigenous languages (vernaculars) often acquire a formal or scientific meaning when used at school to teach Geography curriculum (Wignel et al. 1993 cited in Naidoo 2013). In most Science classrooms, teachers often rely on the use of both formal and informal languages so as to facilitate the process of learning and teaching (Setati, 2002). During these lessons, teachers switch from the use of a complex formal language (English) to the use of simpler everyday use English concepts or learners' main language when explaining technical terms that are more complex to the learners. This suggests that, vernaculars are part of Geographic taxonomy that teachers always rely on so as to facilitate the process of learning and teaching (Wignel et al. 1993 cited in Naidoo 2013).

The principles of Geography discourse (tools of information based on the use of a language) serve as structures that can use a structuring power to give the order and meaning of the

phenomena in its social world (Bourdieu, 1991 cited in Naidoo 2013). In that way, Wignel's et al principle of Geography discourse correlates or agrees with Bourdieu's principle of Geography discourse as they both believe that the language is a dominant symbolic resource in the social world. In other words, Bourdieu's principle of Geography discourse refers to "the use of a language and the structure of Geography as symbolic powers utilised to form a meaning of the experiential world" (Bourdieu, 1991 cited in Naidoo 2013, p6). With regard to that, the author further argues that the initial step of relating to the learner's experience of social world is to look for symbolic description that forms after the learner's perceptual experience (Bourdieu, 1991 cited in Naidoo 2013, p6). This suggest that, usually, the learner's behaviour and understanding towards the subject taught at school is usually shaped by the language used to teach the learner as well as what the learner has learnt or experienced in the social world (Bourdieu, 1991 cited in Naidoo 2013). That is, learners often bring their own knowledge to the lesson, sometimes things the teacher is not familiar with. In that way, the teacher and other learners can learn something out of the learners' pre-existing knowledge (Brock-Utne, 2006). Similarly with the language, learners often bring their own language based experiences to the classroom. For instance, they usually become more participative in a lesson when they are taught in their home language or any language they use in their daily lives (Brock-Utne, 2006). For example:

In the topic "Atmosphere" in Geography curriculum one of the examples of Geographic technical terms that learners need to master is "moisture". The technical lexis 'moisture' in a Geographic context is defined as a humid air surrounding the Atmosphere (Arjun, Delpont, Delpont, Eriksen, Nxumalo, Thompson, Van der Merwe, 2011). This is a scientific definition given to this technical lexis in a Geographic discipline. However, as an everyday used concept, it refers to a liquid such as water in the form of very small water droplets, either in the air, in a substance or on a surface (Walter, 2008). Therefore, one can infer that when teaching technical terms to learners, teachers need to teach in a way that allows learners to understand the technical lexis in both scientific context and in an everyday use context. One of the teaching practices that can be used to do that is to define technical terms using simple English and practical indigenous examples (Brock-Utne, 2006). Secondly, the use of the learners' home language when they do not understand the information conveyed in English can help to facilitate the learners' understanding of the lesson (Brock-Utne, 2006).

Wignel et al. (1993 cited in Naidoo 2013) also contend that the structure of Geographic knowledge is comprised of many taxonomies. The taxonomy in this context refers to the system of naming and organising of a Geographic phenomenon base on its importance principles of superordination or composition (Wignel et al. 1993 cited in Naidoo 2013). Superordination here refers to “where something is a type of or kind of something else” while composition mean “where something is a part of something else” (Wignel et al. 1993 cited in Naidoo 2013, p.7). Applying the principle of superordination in Geography as a school subject, the following example may be used. In Geomorphology section, there are three different types of rocks taught to learners as part of Geomorphology topics. That is, Igneous, Metamorphic and Sedimentary rocks. In this example, the principle “Superordination” extends the concept “rock” by giving examples of its type so as to facilitate the understanding of the rock structure amongst learners (Wignel et al. 1993 cited in Naidoo 2013). On the other hand, the principle of composition will give the description of the rock but nothing about its relationship with other rocks that are of its type (Wignel et al. 1993 cited in Naidoo 2013). For example:

Igneous rock is the rock that forms when molten rocks (magma) cool down and become hard. On the other side, Metamorphic rock is described as a rock that is formed when the Igneous rock is under a lot of pressure and exposed to the extreme heat exerted through tectonic plate. In addition, a Sedimentary rock is defined as a rock that forms when rubbles of the Metamorphic and Igneous rocks collect together to form embedded sediments (Wignel et al. 1993 cited in Naidoo 2013).

In the above example, both principles of classification have been used. That is, superordination has been adopted to give the name of the concept “rock” by outlining it into different types. On the other hand, the principle of composition has been used to give or clarify the description of these rocks.

Another example of the Geographical technical term based on the principles of superordination and composition is “clouds”. For instance, there are four types of clouds, that is, low clouds, middle clouds, high clouds and vertical extent clouds (Arjun, Delpont, Delpont,

Eriksen, Nxumalo, Thompson, Van der Merwe, 2011). In the same way to the aforementioned discussion on principles of classification, here “Superordination” extends the term “cloud” by stating examples of its type so as to allow learners to comprehend different types of clouds that make up the taxonomy of clouds. Conversely, the principle “composition” gives meanings of the above mentioned four different types of clouds but does not clarify as to how they are related to one another. For example, low clouds have a height of 0 to 2 kilometres consisting of Cumulus, Stratus, Stratocumulus whereas middle clouds have a height of 2.1 to 6 kilometres comprised of Altopumulus and Altostratus. On the other hand, high clouds with a height of 6.1 to 12 kilometres are made up of Cirrocumulus, Cirrostratus and Cirrus. Lastly, the vertical extent clouds only consist of Cumulonimbus clouds (Arjun, Delpont, Delpont, Eriksen, Nxumalo, Thompson, Van der Merwe, 2011).

In addition, in the Geomorphology section in Geography curriculum a landform can be described as a natural feature situated on the earth surface (Arjun, Delpont, Delpont, Eriksen, Nxumalo, Thompson, Van der Merwe, 2011). For example, mountains, hills, plateaus, valleys and so forth are all examples of landforms. However, naming a landform “Mesa” gives it formal scientific concept or it technical term and classifies it into a taxonomy that differentiates it from other landforms related to it for instance “Buttes” (Wignel et al. 1993 cited in Naidoo 2013).

Therefore, with regard to the above discussion, one can deduce that this is what teachers need to do whenever conducting Geography lessons using English as a LOLT. They should not just present a huge range of technical terms (scientific concepts) to learners without ensuring that both principles of classification (superordination and composition) are taken into consideration. They also need to ensure that they help learners master how the aforementioned principles relate and are ordered to each other. For example, during lessons teachers need to make sure that they begin by unpacking technical terms by giving examples of their types. Secondly, they will then give the meanings of different types in detail.

Apart from the above, Wignel et al. (1993 cited in Naidoo 2013) argue that formal scientific concepts (technical terms) used at school have vernacular names and their definitions. The

Vernacular names or everyday used indigenous concepts and their definitions given to the phenomenon make more sense to the natives of that particular area. Thus, it can be inferred that the use of vernacular concepts (indigenous terms) in schools by teachers when teaching learners facilitate the process of learning and teaching. In other words, most English second language teachers use vernacular terms or everyday used indigenous concepts when delivering lessons to the learners. They often use vernacular terms when they use teaching practices such as code switching and code mixing during their classroom lessons. These teaching practices are usually utilised when teachers want to clarify any information conveyed to learners during the lesson. The teachers use both the medium of instruction and learners' home language interchangeably or switch from one language to the other. These teaching practices can also be used when teachers find it difficult to explain certain formal scientific concepts (technical terms) using English as a LOLT. Furthermore, they can also be used if learners are not proficient in the use of English as a LOLT. For example, in the "weather and climate" section in Geography, indigenous concepts or vernacular names such as *linomoya* (windy), *liguqubele* (cloudy), *liyashisa* (sunny) and so forth can be used by teachers interchangeably during Geography lessons so as to clarify the meaning of the technical lexis "weather" to the learners (Wignel et al. 1993 cited in Naidoo 2013). Nevertheless, scientifically the concept "weather" refers to "the state of the atmosphere at a local level, usually on a short time scale minutes to months (Wignel et al. 1993 cited in Naidoo 2013).

In that way, it is of paramount importance that the teacher using the above-mentioned teaching practices is a bilingual or multilingual speaker. Here the concept bilingual refers to a person with an ability to speak two languages (Mullar, 2007). On the other hand, multilingual speaker refers to a person with an ability to communicate in more than two languages. Therefore, a bilingual or multilingual teacher should be able to teach using a variety of learners' languages when teaching learners of different language backgrounds.

According to Biseth (2006), it is crucial in a democratic country like South Africa where freedom of expression is one of the most important components of democracy that citizens respect language diversity particularly the use of all eleven official languages. The competence in a home language and at least any of the languages amongst eleven official

languages is essential (Biseth, 2006). However, in the contemporary country like South Africa, most learners particularly those that attend government schools are denied this opportunity to use their home language at school to express themselves during the process of learning and teaching. This suggests that the current South African educational system somehow put English second language speakers at a disadvantage since English is the language of learning and teaching in most rural schools. Most learners who attend rural schools where English is used as a LOLT are not doing well in English thus could not easily master Geographical technical terms. One of the reasons for this is due to the fact that English is not their mother tongue. Therefore, one can deduce that bilingualism or multilingualism amongst both teachers and learners within the school context is a very important issue to take note of in a contemporary democratic country like South Africa (Biseth, 2006). Alexander (1999, p. 9) also argues that “the local languages have a vital role to play in societies. There should be a need for an overall multilingual language policy, both long term and short term in which the various languages are institutionalized to their greatest advantage”. In other words, the usage of two or more languages as the medium of instruction in a classroom should be a general practice or principle in South African schools (Alexander, 1999).

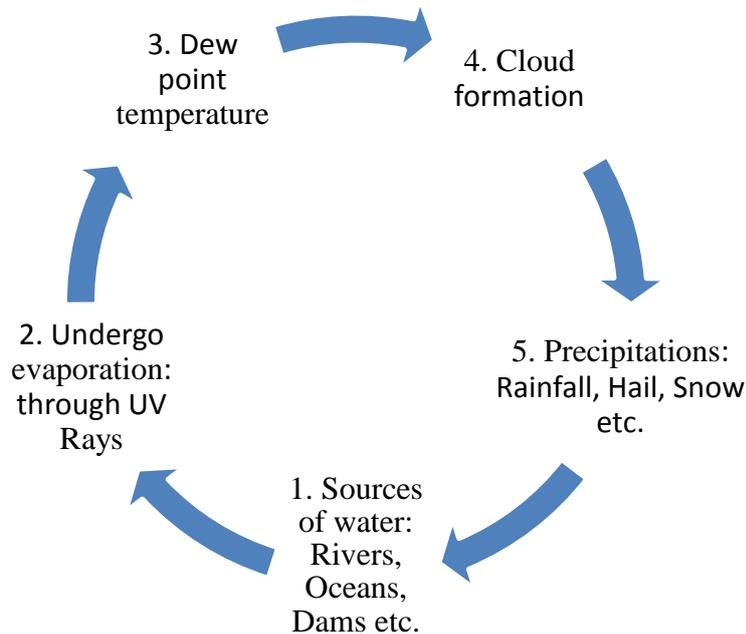
The third principle of Geography discourse used to explain the order and meaning of the phenomena in the social world is implication sequences of cause and effect (Wignel et al. 1993 cited in Naidoo 2013). The implication sequences of cause and effect is referring to the method of connecting one process (the cause) to the other (the effect) where the second process is believed to be the cause or the result of the first process (Wignel et al. 1993 cited in Naidoo 2013). The knowledge and methods used in scientific writing (technical taxonomy) are defined through the clause based on the cause and effect (relational) process. Therefore, technical terms can also be explained through the process of causal relations concerning the phenomena being studied (Martin, 2006 cited in Naidoo 2013). The system of naming and organising things according to their similar qualities (taxonomising) focuses on things whereas explaining focuses on processes (Martin, 2006 cited in Naidoo 2013). That is, the emphasis of taxonomising has shifted from the naming and organising of things in place to the explanation of things in action. Therefore, when trying to explain why things appear the way they are, it is very important to consider their processes, conditions as well as all the

other things (participants) that participated in or were involved in their formation (Martin, 2006 cited in Naidoo 2013). These qualities or characteristics when combined together will form a group of words that might form a sentence (clause) that could be referred to as the implication sequences of cause and effect (Martin, 2006 cited in Naidoo 2013). For instance, in the following paragraph the author has used the principle of implication sequences of cause and effect to explain the occurrence of cold front in a chronological sequence. The author started by giving the description of the cold front, followed by the process of cloud formation as well as the formation of all the precipitations associated with this front. For example:

The cold front occurs if the mass of cold dense air moves to the warmer regions to force a mass of light warmer air to move upward. As the warm moistured air moves upward it eventually becomes cool to reach the dew point temperature and as a result form cumulus clouds or condenses to give water droplets (frontal rainfall). Strong winds, rainfall and at times thunderstorm often move with the edge of the front (Martin, 2006 cited in Naidoo 2013).

Therefore, when explaining implication sequences of cause and effect, it is very important to have all the causal resources to make the explanation more meaningful and interesting (Martin, 2006 cited in Naidoo 2013). For example, the logical connectors such as, “if, as a result of, resulting in” may be used in implication sequences of cause and effect to make sequences more sound (Martin, 2006 cited in Naidoo 2013, p.8).

Furthermore, (Martin, 2006 cited in Naidoo 2013) contends that the transition network model may also be used to represent the implication sequences of cause and effect principle. The transition network model is referring to a method of representing sequential information (Martin, 2006 cited in Naidoo 2013). This can be done by using states (arrows representing a piece of information) as well as arcs (the arrows showing a direction of the change based on the information represented) (Martin, 2006 cited in Naidoo 2013). For example, the following diagram portrays the transition network model that can be used by Geography teachers to explain the implication sequences of cause and effect based on the process of the cloud formation and as a result precipitations.



**Figure 1: The model of transition network on cloud formation and precipitation.**

The first stage in the above model shows different sources of water available on the Earth surface. The second stage portrays evaporation of water from these different sources of water such as rivers, oceans and dams due to the presence of ultra-violet rays from the sun. In the third stage, the phrase “dew point temperature” indicates that at some point the water vapour will rise until it cools below its dew point and thus reach dew point temperature. In addition, the arrow pointing to the expression “cloud formation” indicates the formation of clouds that occur after the water vapour has reached the dew point temperature. Eventually, precipitations in the form of a rainfall, hail or snow and so forth will take place as a result of cloud accumulation.

With regard to the above discussion, one can infer that the field of Geography consists of technical terms based on the observation and experience of the phenomena in the social world. Geography also comprises a number of connected taxonomies to give order and meaning of the phenomena based on its observation and experience within the social world. Furthermore, Geography consists of implication sequences of cause and effect that help to explain what the things are as well as how they came to be the way they are. The Geography

teachers should use the aforementioned principles to explain technical terms thoroughly to the learners. This will enable the learners to understand them and make sense of their social world in Geographical ways (Wignel et al. 1993 cited in Naidoo 2013).

For example, when the teachers teach Geography, the above-mentioned principles of Geography discourse shall always be taken into consideration. Also, teachers ought to teach Geographic technical terms to learners in a way that they easily comprehend them and relate them with their indigenous concepts (vernaculars). For instance, a Geographic technical lexis like “weather” may be taught to learners during the Weather and Climate section. Teachers need to help learners to master as to what this technical concept actually means both in scientific lexis and as a regularly used concept.

Moreover, one can infer that Geography teachers need to caution learners that in Geography as a school subject there are taxonomies. For example, within clouds’ taxonomy, clouds are named and classified according to the temperatures associated with them and the height or level above the earth surface where they are situated (Arjun, Delpont, Delpont, Eriksen, Nxumalo, Thompson, Van der Merwe, 2011). In addition, the implication sequences of cause and effect principle should not be overlooked when teaching Geography to the learners. That is, it is of vital importance that teachers explain to the learners how Geographic technical terms and vernaculars form one another or depending to each other.

## **2.7. Conclusion**

The literature based on practices of rural teachers teaching Geography using English as a LOLT has been discussed and interpreted in this chapter. This has been done through reviewing a variety of literature reports related to the practices of rural educators on the use of English as a LOLT when teaching Geography. The views and beliefs as well as challenges on practices of rural educators on the use of English (LOLT) when teaching Geography were discussed in this chapter. Hence, the main aim of this chapter was to present and outline the researched literature that aligns with practices of rural educators on

the use of English as a LOLT when teaching Geography. The subsequent chapter will discuss the research approach and methodology of this study.

## **CHAPTER 3: RESEARCH METHODOLOGY**

### **3.1. Introduction**

This chapter describes the methodological aspects of the study. The two different ways of collecting data for this study are discussed in this chapter. A sample consisting of three participants has been selected for this research study. The purpose of this study is to explore and analyse practices of grade 10 rural teachers on the use of English as LOLT when teaching Geography.

### **3.2. Research paradigm**

Blanche and Durkheim (2002) define a research design as a plan that guides the arrangement of collection and analysis of the data in a manner that aims to answer research questions. This suggests that, the methodology section in a research report explains the approach that the researcher has used to gather and analyze data so as to respond to the research questions (Blanche and Durkheim, 2002). The authors further argue that the qualitative research approach is descriptive, holistic as well as probing questions aimed at producing rich deeper understanding of the researched phenomenon (Blanche and Durkheim, 2002).

Correspondingly, Ary, Jacobs, and Razavieh, (2002, p.22) argue that a “qualitative research approach focuses on understanding social phenomena from the perspective of the human participants in the study.” Similarly, the interpretive approach to research, intends to understand the world of human experience based on their views (Cohen & Manion, 2003). It relies on the use of extensive interviews with the aim of exploring and describing the human perceptions as well as their understanding of the social phenomenon. Therefore, recognizes impact of the phenomenon being studied on the research through participants’ objectives, (Cohen & Manion, 2003). The researcher relies on participants’ views and their experiences of the social world. Broad questions are asked, their responses (in the form of words or text) form the body of collected empirical data which is used to answer research questions (Creswell, 2007).

### **3.3. Research approach**

Furthermore, the case study approach has been used in this research study. This approach is described as a rigorous exploration approach that allows researchers to search and discover a researched phenomenon of the study (Baxter & Jack, 2008). It can also be adopted to define the phenomenon in an area of study using different sources of data, (Baxter & Jack, 2008). Yin (2003, p. 544 cited in Baxter and Jack, 2008) argues that a case study approach allows the researcher to “explore the case, for example, individuals or organizations, simply through complex interventions, relationships, communities or programs and support the deconstruction and subsequent reconstruction of various phenomena.” Therefore, due to its flexibility and rigorousness, the approach could also be used to explore and describe the health Sciences, Social Sciences as well as educational phenomenon to establish theories (Yin, 2003 cited in Baxter and Jack, 2008). Moreover, a case study allows researchers to unravel circumstances of the case and factors that become catalyst to the case study. In other words, the researcher aims at finding out the real experience of participants as well as their thoughts and beliefs about a particular condition (Cohen, Manion and Morrison, 2000).

Thus, an interpretivist paradigm informed by a qualitative approach and a case study approach has been adopted in this study. The case study comprised of three case studies of teachers’ practices on the use of English as a LOLT when teaching Geography, have been obtained from three research sites purposely selected. This study has selected this methodology so as to interview Geography educators and observe their teaching practices on the use of English as a medium of instruction when teaching Geography in Grade 10 in a rural school context. Thus, semi-structured interviews and classroom observations were used to collect data from a sample that consists of three participants.

### **3.4. Sampling of participants**

Cohen, Manion, and Morrison (2007) argue that the quality of a piece of research not only stands or falls by the appropriateness of methodology and instrumentation but also by the stability of the sampling strategy that it has adopted. This emphasizes that sampling is one of the most important aspects of the research that needs to be considered before conducting the

research. With regard to that, sampling has been described as the process that involves decision making about which people, settings, events or behaviour to study (Cohen et al. 2007). UMshwathi Municipality is the main area for sampling in this study. Three case studies comprised of teachers' practices on the use of English as LOLT in schools under uMshwathi Municipality have been utilised. These three case studies consisted of participants with appropriate pedagogical qualifications in Geography and had many years of experience in the field of teaching Geography in the FET phase. For purposes of confidentiality, pseudonyms were used to protect the identity of these participants. Teacher A was given a pseudonym Mrs Igwe, Teacher B Mrs Hlela and Teacher C Mr Zondi.

The purposive sampling method also known as criterion sampling approach was adopted as a recruitment strategy to choose these participants (Simasuku, Kasanda and Smith, 2014). According to Lee (2006), purposive sampling method is effective when attempting to acquire in-depth information by selecting information-rich informants. The author stresses that through purposive sampling, both participants and the site where the research will be conducted may be intentionally selected to study the selected phenomenon (Lee, 2006). Therefore, my sample was comprised of three participants from three different rural school contexts. One participant was from my school/Teacher C (a teacher with a qualification and experience in teaching Grade 10 Geography). The other two participants were chosen from two selected neighbouring schools. That is, Teacher A and B. Case studies on teachers' practices on the use of English as LOLT when teaching Geography were conducted to these educators respectively. These case studies were comprised of classroom observations with field notes and semi-structured interviews. The interviews were tape recorded and transcribed. Below are descriptions of participants' school contexts respectively.

### **School A (Mrs Igwe)**

Mrs Igwe teaches in a resourced semi-rural school located in the farm area called Dalton. This school consists of three grade tens, that is, grade ten A, B and C. The grade ten Geography classroom (grade ten C) comprised of forty six learners. Most learners in these classes speak Zulu as their home language and English as the second language. Many learners in this school come from rural areas such as Swayimana, Zwathini and Mpolweni which comprised of many unemployed people. As such, the school has a feeding scheme

programme that provides food to learners during the lunch break. The teacher's home language is Shona. Her age is between 35 and 40 years. She has 17 years of teaching experience in the field of education. She started teaching in her indigenous region (Zimbabwe) in the year 1999. She then came to South Africa in the year 2009 and started teaching since then. She has eight years of experience teaching Geography in South Africa. Her major teaching subjects are History and Geography as well as Social Sciences in the lower grades. She has chosen Geography because she is passionate about it.

Mrs Igwe's lesson was based on measuring the distance and an area on a map. The purpose of this lesson was to teach map interpretation skills and calculations to the learners. The resource used during this lesson included maps, calculators, learners' exercise books and a chalkboard. The teacher used English only to instruct learners to work in groups to discuss questions and do the calculations.

### **School B (Mrs Hlela)**

Mrs Hlela teaches in a school that is well organised and still in a good condition but located in an underdeveloped rural area. Her grade 10 Geography classroom consisted of thirty two learners. Almost all learners in this class speak Zulu as their home language and English as the second language. Most learners in this school come from a rural area called Mpolweni which comprises many unemployed school stakeholders. Therefore, the school has a feeding scheme programme to provide food to learners.

Mrs Hlela's home language is IsiZulu. Her age is between 40 and 45 years. She has started teaching since the year 1991. As a result, she has a teaching experience of twenty five years. She indicated that Geography is one of her teaching specialisations and has now taught it for a period of fifteen years. She explained that she started teaching Afrikaans before taught Geography as her main subject.

When she started teaching, Afrikaans was the only available subject that could be offered for her to teach at the rural primary school. After few years she got an opportunity to teach Geography at a secondary school. While pursuing her qualification 'Primary teachers'

Diploma' she did environmental studies as one of the requirements to complete this diploma. Therefore, this teacher qualified to get a job at a secondary school to teach Geography.

The lesson observed was based on the internal structure of the Earth. The aim of this lesson was to teach learners about different layers of the inner part of the earth. It was also to explain to learners about factors that lead to the drifting of the Earth surface. Some of the resources used during this lesson included Geography textbooks, learners' textbooks and a chalkboard. The teacher taught in English only. However, she instructed learners to examine pictures of the internal structure of Earth from the textbooks so as to easily understand the content taught.

### **School C (Mr Zondi)**

Mr Zondi teaches in a semi-rural combined school situated at the edge of a rural area known as Swayimana. The school has many relatively good facilities that are now obsolete. It has one grade ten Geography classroom which consisted of seventy four learners. Almost all learners in this class use Zulu as their main language and English as their second language. Many learners in this school come from a rural area called Swayimana which consists of many unemployed parents. Thus, the school has a feeding scheme program to cater for these poverty stricken learners. The teacher's home language is IsiZulu. He is between the age of 35 and 40 years old. He has taught for a period of fifteen years in this school and has started teaching Geography since 2004. Geography is one of his major subjects that he is presently teaching and qualified to teach. He has chosen this subject because he is passionate about it and found it interesting. He further indicated that he likes the subject because it deals with the environment and what people experience in their daily lives. He is interested in knowing how the environment and people influence one another.

The topic he taught during the observation of the lesson was based on desert and drought. The purpose of this lesson was to teach learners about the impact of weather changes on the environment. The resources used during this lesson included Geography textbooks, learners' exercise books and a chalkboard. Some of the teacher's practices on the use of English as a LOLT included code-switching and the use of simple English concepts and vernacular concepts.

### **3.5. Data collection strategies**

The data collection methods that were utilized in this research study include semi-structured interviews and classroom observations.

#### **3.5.1. Interviews**

According to Cohen et al. (2003) an interview is a structured conversation between the researcher and the participant aiming at generating an open-ended textual data. These authors argue that qualitative research interviews allow participants to express their interpretations of the world they live in from their point of view. Consequently, the interviewer therefore probes very deeply seeking for their beliefs, experiences and understanding of the phenomena being studied (Cohen et al. 2003). Correspondingly, Silverman (1993 cited in Tolmen, 2014) states that interviews are very essential in gathering participants' reflections on their attitudes, beliefs as well as facts of the social phenomena under study. This suggest that, interviews explore the feelings, motives as well as present and past behaviour of the participants associated with the phenomena being studied (Silverman, 1993 cited in Tolmen, 2014).

A semi-structured interview consists of an interview schedule comprised of a set of pre-designed questions which allow room for additional questions that come up during the interview (Leedy and Ormrod 2010, cited in Ndemuweda, 2011). The authors further contend that semi-structured interviews probe for high detailed responses as well as a participant's reasoning and clarification of information on the studied phenomena (Leedy and Ormrod 2010 cited in Ndemuweda, 2011). Hence, semi structured, more open-ended interviews favour smaller samples while more structured and close ended interviews favour larger samples (Cohen et al. 2007). Therefore, due to the size of the sample of this research study that consists of three participants and the nature of the research questions which guide this study, semi-structured interviews have been deemed appropriate for this study. The semi-structured interviews have been used with an aim to get an in-depth understanding of teachers' practices on the use of English as the LOLT when teaching Geography in rural schools' contexts. Thus, three Geography educators participating in this study have each been

interviewed to get a robust description of their practices of teaching Geography using English as the LOLT.

The questions included in the semi-structured interview schedule were clear and non-ambiguous to avoid double-barrelled answers from the participants. Most importantly, the audiotape recorder to record interview verbatim was also used to increase chances of getting accurate data during the transcription. That is, the transcript was more accurate than if I had jotted down all the notes during the interview.

Like any technique of data collection, the usage of interviews has its own disadvantages. One of its disadvantages is that it is time consuming (Marungudzi, 2009). For example, during the administering of the interviews to my participants, some of them found it very difficult to allocate time to be interviewed knowing that they have to sacrifice at least an hour of their time as I indicated in the letter of consent that the interviews might last up to an hour. Seligar and Shohamy (1989 cited in Marungudzi, 2009) state that interviews are also prone to subjectivity and personal bias to the data collection. For example, the rapport between the researcher and the interviewee may lead to the collection of untrustworthy data as the interviewee may answer the questions intending to impress the interviewer rather than answering questions genuinely (Seligar and Shohamy, 1989 cited in Marungudzi, 2009). This has been observed during the data collection. That is, one my participants was my colleague, as a result some of the answers he gave me during the interview were not necessarily the truth but were based on what he thought I needed to hear rather than answering the questions honestly.

### **3.5.2. Classroom observations**

Classroom observations of the Geography educators conducting their lessons were also used as another source of data for this study. Cohen, Manion and Morrison, (2007) assert that observation methods of data collection are very effective research methods because the researcher does not have to only rely on participants' opinions or perceptions of the researched phenomena. Instead, the researcher observes the whole research setting so as to get an in-depth insight and thick description of the researched site, participants' actions as well as the phenomenon under investigation (Cohen, Manion and Morrison, 2007). Similarly,

Tolmen (2014) contends that observing participant's gestures and body language within a research site provides a rich data of the whole social setting. For example, in the classroom context, learners' gestures like leaning backward on the chair, yawning, nodding of heads in agreement with the educator as well as eye contact with the teacher while conducting a lesson signifies learners' response to the lesson and the teacher (Tolmen, 2014). Despite the advantages of using a classroom observation method mentioned above, this method can also be intrusive and distracting to people being observed in the research site (Cohen, Manion and Morrison, 2007). For example, the researcher's presence in the classroom during the lesson observation may cause the teacher and learners to behave differently. That is, they would not feel comfortable to behave normally observing an unfamiliar person in their classroom. The act of behaving unusually due to being observed is known as the Hawthorne effect (Cohen, Manion and Morrison, 2007).

The observation method of data collection may be structured or unstructured depending on the research paradigm, research design and research questions of the study (Mtitu, 2012). The author further asserts that in an interpretivist approach to research, a semi-structured observation is used to interpret and understand the participants' cultural behaviour. That is, a structured observation allows the researcher to gather detailed notation of participants' behaviour in a research site. It can also be used to observe participants interacting with one another in their socio-cultural context (Mtitu, 2012).

This study adopted a structured observation method of data collection to supplement the semi-structured interviews. The researcher has used structured observations method to observe Geography educators conducting their lessons. Each participant was observed once per lesson. This was due to time constraints. Participants kept on postponing dates we set to meet; this was a bit difficult and challenging for me as a researcher. I realized that they were feeling uncomfortable to be observed while conducting their lessons. As a result, I then requested if I could at least observed one lesson per participant. They conceded to that request.

The researcher has served as a non-participant observer to observe and jot down classroom observations as the lesson proceeds. Also, the audio recording of the lesson during the

classroom observation was done. This was done in order to attain a coherent elocation of teacher-classroom practices as well as how learners respond to teachers during the lesson. Furthermore, the information based on classroom observations has been noted down in the observation schedule so as to add strength in the information taken through audio recordings.

### **3.6. Presentation and analysis of data**

The findings of the study were presented and analyzed. Both inductive and deductive approaches to data analysis were used to organize data that has been collected using interviews and classroom observations. I looked at the interview data inductively and I found categories, themes and patterns. On the other hand, the classroom observation data was analyzed deductively using Naidoo's (2013) concepts as a benchmark in the organization of the data.

### **3.7. Trustworthiness (validity, reliability and rigour)**

Lincoln and Guba (1985) argue that the terms reliability and validity are not applicable in qualitative research thus suggest the adoption of the terms such as trustworthiness, relevant, plausible, confirmable, credible or representative. They further contend that measurement is not an issue in a qualitative study because its aim is to describe and not to measure. The authors hence assert that "when the quantitative researchers speak of research validity and reliability, they are usually referring to a research that is credible while the credibility of the qualitative research depends on the ability and effort of the researcher" (Pattorn, 2001 cited in Golafshani, 2003). In this regard, instead of using the term reliability in a qualitative study, the term dependability (consistency of the findings) could be adopted (Golafshani, 2003). As a result, the adoption of triangulation which is based on the use of different types of data collection methods to collect data from participants will be of paramount importance to enhance the credibility of this study. For example, semi-structured interviews and classroom observations were used to collect data aiming at increasing the trustworthiness of the results. The questions in the semi-structured interview schedule were clear and non-ambiguous to avoid double-barreled answers. Most importantly, the audiotape recorder to record interview verbatim was used. This will mean that the transcript would be more accurate than if the

researcher would have to jot down notes during the interview. The transcripts for the transcribed interviews were brought back to participants for ‘member checking’ to verify the truthfulness of the information collected (Cresswell, 2007).

However, it is pertinent to underscore that this study had some limitations. For example, only three Geography educators were interviewed. Also, only one lesson observed for participants respectively. Therefore, this means that all the other Geography educators teaching in schools under uMshwathi municipality region are not represented. Therefore, these results cannot be generalized to a wider population of uMshwathi municipality region. As such, one of the limitations of this research study was that the data collected is not representative of all the high schools in the UMshwathi municipality but only three selected schools.

### **3.8. Ethical issues**

Ethics in research is very essential; especially when it pertains to studies involving humans and animals (Lee, 2006). The author further maintains that it is essential that all the research conducted follow certain ethical principles. Some of these ethical principles that the researchers need to abide by include autonomy (participants’ right to self-government), non-maleficence (referring to “do no harm”) and beneficence (means the study must be beneficial) (Lee, 2006). In this study the letters of consent to conduct a research to participants with the purpose of the study were issued by the Department of Education. The school principals as well as all the participants signed letters of consent before the collection of the data. This ensures that the educators understand the purpose of the study and ensure that no harm emotionally or physically occurs to them. The participants were also told that they may withdraw at any time during the study if they do not feel comfortable or they feel intimidated by questions posed to them. It was also ensured that participants are told from the beginning of the study that any information or results generated from this study will be kept strictly confidential (Cresswell, 2007). Also, all three participants involved in this study were interviewed anonymously and pseudonyms were used to protect their identities.

The observation of participants teaching Geography in their classrooms was used as one of the data collection method in this study. This inadvertently means that teachers’ classrooms

will be invaded by a stranger. Notably, this could cause some educators to feel uncomfortable when they have to teach in the presence of an alien observer. In order to cater for this problem and offset some of the negative effects of the observation methodology, the researcher has undertaken to explain to the teacher and the class, the intention and rationale for the study. It was pertinent to assure participants that the study was in no means intended to harm any of them in any way. The researcher assured participants that they are not assessed in this study. He also informed participants that the data that was obtained will not be used by anyone else to their detriment.

In addition, the participants were informed that their identities will be protected throughout the study. When the study is completed the data will be preserved for a period of five years before the data collected from participants is disposed of.

### **3.9. Role of the researcher**

I am a Geography teacher teaching grade ten English second language learners mostly coming from rural areas. I found it interesting to conduct a study on practices of Geography teachers when teaching Geography using English as a language of learning and teaching. One of the participants in this study was my colleague. This might have affected the results of this study because some of the answers he gave me were not necessarily the truth. That is, he gave me answers that he thought I was looking for or I wanted to hear.

### **3.10. Conclusion**

In this chapter I have explained the methodology I used in collecting the data. These include semi-structured interviews and classroom observation. The appropriateness of these methods in this study has been discussed. The sampling method, data analysis, ethical issues as well as trustworthiness issues of the study have also been explained in this chapter.

## **CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA**

### **4.1. Introduction**

This chapter presents and analyses data that has been collected through interviews and classroom observations. The data has been presented according to the research questions. Both inductive and deductive approaches to data analysis were adopted. That is, the interview data was analyzed inductively so as to see themes, categories and patterns that emerged. On the other hand, the classroom observations were analyzed deductively using Naidoo's (2013) concepts of Geography discourse. The three critical research questions used to guide the presentation and analysis of the data are as follows:

1. What are teachers' challenges of teaching Geography in rural schools using English as a LOLT?
2. What are teachers' practices of teaching Geography using English as a LOLT?
3. How do teachers' practices facilitate the learners' understanding of Geographical concepts using English as a LOLT?

### **4.2. Research question 1: What are teachers' challenges of teaching Geography in rural schools using English as a LOLT?**

In the following section I present findings on rural teachers' challenges of teaching Geography using English as a LOLT. The teachers' challenges to teach Geography using English has to do with a variety of factors that make it difficult for teachers to teach Geography to learners using English. The teachers indicated that some of the prevailing challenges they often experience are related to the learners' ability to speak English, the work volume and number of concepts used in the subject Geography as well as the availability of relevant teaching resources.

#### **4.2.1 Learners' ability to understand /speak English**

With regard to challenges they experience related to the usage of English as a LOLT when teaching learners, the first theme emerged from the data was the learner's ability to understand/ speak English. All three teachers referred to the usage of English as a major barrier hindering learners from understanding teachers during lessons. Mr Zondi mentioned that it is a challenge for learners since it is their second language. He explained that:

*You might find that they are struggling to put exactly the idea that they have using English.*

He believes that learners often have answers or ideas for questions that teachers ask them during the lesson. However, the problem is that they do not know how to say an answer having to use the language that is not their mother tongue and not competent in it. Tolmen (2014) states that a learner who only uses his/her mother tongue to converse on daily basis finds it very difficult to express himself/ herself when trying to write or converse in another language. The use of English as a LOLT during the lesson makes it very difficult for learners to participate due to it being their second language and not competent in it.

Mrs Hlela also enunciated that almost all learners she teaches come from rural areas and are not exposed to English. She elaborated that these learners find it difficult to understand questions posed in English. As a result, when answering questions written in English during assessments such as tests and exams they can only write answers using their limited vocabulary.

Mrs Hlela further indicates that learners' home environment has an impact on the learners' English competency. Like Tolmen (2014), she believes that learners who are coming from an environment where English is hardly used as a language of communication are likely not to be competent in it. She is of the view that this results in poor school results because when assessed in English they often write whatever that they have a vocabulary to write which is not necessarily what the question asks.

Mrs Igwe also pointed out that English second language learners have a problem of understanding English. She is also of the view that most learners comprehend English but find it very difficult to express themselves in it. She believes that most learners who are not competent in English cannot read it. As a result they achieve very poor results when they are being assessed in it. She further pointed out that many English second language learners do not like to be taught in English thus they answer English questions in Zulu or remain silent when being asked questions during the lesson. This is supported by her personal experience as she argued:

*Some learners are struggling to understand English. Most of them understand it but expressing themselves in it is a problem. Some of them cannot even read. English impact negatively on their results. They answer English questions in Zulu. Some learners have a negative attitude toward being taught in English. They do not like to be taught in English. Some learners end up not participating in class because of the usage of English as a LOLT.*

In summary, all three participants believe that the usage of English as a LOLT to teach English second language learners impacts negatively on their school results. They pointed to different factors related to challenges of using English as a LOLT to teach Geography. Some of these factors include the learner's ability to converse and understand English. The learner's environment was also included as another factor that contributes to the learner's English competency. Also, self-confidence on the usage of English as a LOLT amongst learners was another factor mentioned by one of these participants that hinders or allows learners to speak English during the lessons.

#### **4.2.2 The work volume and number of concepts used in the subject**

When asked if learners understand the language and concepts used in Geography materials/textbooks, Mr Zondi indicated that due to a number of complicated concepts found in the subject, learners find it very difficult to master Geography notes when reading them.

He explained that this makes it very difficult for learners to form English sentences or ideas having to use these complicated Geographical concepts. He narrated:

*Geography has a lot of notes thus a lot of concepts for learners to master. You might find that they are struggling to put exactly the idea that they have using English because the subject is full of many concepts and terms where the learner should show up that she or he understand the concept.*

Tolmen (2014) attests to this as he states that most English second language learners have difficulties in grasping English concepts. One can therefore deduce that English second language learners also find it difficult to understand Geography concepts as they are also presented in English. Tolmen (2014) further indicated that these learners also have a problem when they have to jot down English concepts. That is, their spelling and the ordering of words is often incorrect (Tolmen, 2014). One of the reasons behind this is that learners do not use English when they are at home or their environment but only when they are at school (Tolmen, 2014). Another reason is that most of the Geographical concepts used in the Geography curriculum are based on implication sequences of cause and effect (Martin, 2006 cited in Naidoo 2013). This means that they are defined by the method of connecting one process (the cause) to the other (the effect) where the second process is believed to be the cause or the result of the first process (Martin, 2006 cited in Naidoo 2013). For example, the concept such as “soil erosion” which is commonly used in the section called Geomorphology in the Geography curriculum is defined through implication sequence of cause and effect. This process (soil erosion) takes place when there is a high rainfall that results to the occurrence of floods. The floods (large amount of water flowing on the ground during the rainfall) often erode (remove) the top soil. Thus, the whole process is referred to as soil erosion. Therefore, when teachers explain such Geography concepts, they should describe all processes, conditions and all the other things that are involve in defining the concept (Martin, 2006 cited in Naidoo 2013). This often makes it very difficult for learners to easily master the meaning of these concepts.

Similarly, Mrs Hlela expressed that in the Geography curriculum there is a lot of information thus there are so many confusing concepts that makes it very difficult for learners to

understand the content. Mrs Igwe on the other hand, also explained that the comprehension of Geographical concepts amongst learners is very difficult. She elaborated that learners seem to understand concepts during the lesson when the teacher explains to them. However, when they are assessed during tests or exams, poor results signify that they are battling to comprehend concepts and the language. The excerpt below portrays her sentiments.

*Most learners are struggling to understand Geography concepts in English. Yah, (eehh) there are so many...you know, understanding the concept itself is a challenge...it will look like they have understood when you are just explaining and then if you just ask those (eehh) low order questions like define and the like to them it easy but when you go deeper now with those middle order or higher order questions, it becomes (eehhhe) a problem.*

Another reason that causes learners to find it very difficult to master concepts used in the subjects' content is that most educators do not teach concepts to learners in both scientific context and in an everyday used context (Brock-Utne, 2006). That is, many teachers simply explain scientific concepts according to the information presented in the textbook without attempting to relate that information to the learners' environment or everyday used local knowledge.

To sum up, the data in the above paragraphs signifies that all three participants believe that Geography has a lot of notes with a variety of confusing concepts. Therefore, learners are struggling to comprehend them.

#### **4.2.3 The availability of relevant school resources**

With regard to the availability and accessibility to appropriate school resources, Mr Zondi pointed out that:

*The school has very limited resources. Geography has a lot of notes. I feel that technology is one of the resources that can be utilised to minimise this problem. For*

*example, the use of computers, projectors, charts and pictures can make learners to easily access Geography notes thereby concentrate during the lesson instead of jotting down very long notes. I believe that this will as a result make learners to easily comprehend the Geography content.*

He is of the opinion that the availability and accessibility of the above-mentioned school resources at school can make it easier for learners to access Geography content. He believes that this will help learners to pay more attention during the lesson instead of worrying about writing a lot of Geography notes while the teacher is conducting the lesson.

Mrs Hlela also mentioned that:

*Some learners find it difficult to understand Geographical information when visualising it in their heads, instead of watching it from a video.*

She believes that the absence of resources such as overhead projector (henceforth OHP) and computers make it difficult for learners to understand some of the Geographical topics. According to her experience, some topics can be easily understood when they are watched through videos or OHP instead of being explained using the textbook and a chalkboard only.

Furthermore, Mrs Igwe, supporting the above utterances, expresses that:

*The school resources are limited. There are no globes and atlases and textbooks are not enough. There is no Steven Sound Screen (equipment) where learners can keep instruments such as thermometers, rain gauges and so forth. Most Learners find it difficult to master topics such as tectonic plates or continental drift; this becomes easier when they are watching them from the videos.*

She also believes that the shortage of school resources has a negative impact on the process of teaching and learning of Geography content. She believes that the lack of the above-mentioned resources slow down the process of teaching and learning thereby causing learners to get poor results.

In summary, the responses of participants reveal that they all believe that the lack of school resources have a bad impact on the process of teaching and learning of Geography content. They also believe that this causes learners to get poor results in the subject, Geography.

### **4.3 Research question 2: What are teachers’ practices of teaching Geography using English as a LOLT?**

In the following section I present findings on teachers’ practices of teaching Geography using English as a LOLT. I commence by presenting the classroom observation data for each teacher in the form of a table and then analyse practices that each teacher uses in his/her lessons. I then integrate the data about what they say from the interview with what I have observed during their lessons.

#### **4.3.1 Descriptions of the observed lessons**

The summaries below in the form of tables are based on teaching practices used by teachers when teaching learners using English as a LOLT. These summaries include practices used to cater for learners’ English proficiency. They also include practices and resources used by teachers during the lesson to cater for the lack of teaching resources.

The following tables show a summary of the data collected during classroom observations.

Teacher: Mr Zondi

Number of learners: 83

Grade: 10B

Topics: Desert and drought as well as rural-urban migration.

Resources used: Textbooks, Exercise books and a chalkboard.

*Table 1: Episodes and activities of Mr Zondi’s lesson.*

Time	Episode	Teacher activity	Learner activity
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13:25- 13:50	Recap on desert and drought using English.	The teacher explained concepts “Lamino and Elnino” by first giving a chance to learners to explain according to their understanding and then explain using English.	Learners responded in English to questions posed by the teacher using their exercise books. They also used textbooks but very few got them and they shared them amongst themselves.
13:50- 13:55	The teacher highlighted on the causes of desertification.	He began by asking for learners’ understanding of this concept “desertification”. Thus, used their explanations to give them a more correct explanation of this concept.	Learners gave explanations of concepts according to their understanding using English. They also jotted down notes while the teacher was explaining and others listened to the teacher.
13:55- 14:05	The teacher also introduced the topic on rural-urban migration and its causes (cause and effect).	The teacher started by asking for learners’ understanding of the concepts using English. He then used English and code switching to explain this topic to the learners.	Learners used English to explain the concept according to their understanding. They also wrote down the definition that the teacher gave them in their exercise books.
14:05- 14:15	The teacher also looked at the effects of Drought on the environment (cause and effect).	Using the learners’ answers as well as his answers, he explained this topic using English.	The learners engaged with the lesson by asking questions to the teacher in English.

14:15- 14:30	The teacher also touched upon the concept 'evaporation'.	He explained to the learners using English and code switching how the evaporation is prevented during the period of drought.	Learners explained some concepts to the class using English.
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Teacher: Mrs Hlela

Number of learners: 32

Grade: 10 A

Topic: Internal structure of the Earth surface.

Resources used: Textbooks, Exercise books and a chalkboard.

*Table 2: Episodes and activities of Mrs Hlela's lesson.*

Time	Episode	Teacher activity	Learner activity
07:55 – 8:05	Recap on the Internal Structure of the Earth Surface.	The teacher conducted a lesson in the form of explanation using English. She explained using English, the tectonic forces that shape the Earth surface.	Learners had exercise books and they participated using English during the lesson.
08:05 – 8:10	Informal assessment on what was taught.	The teacher asked questions to the learners using English.	The learners responded to questions using English.
08:10 -8:20	Theory on tectonic plate.	The teacher explained the theory of tectonic plate using English.	Learners were given textbooks to look at pictures showing processes of tectonic plate (continental drift).

08:20– 8:45	Classwork/Homework was given to the learners.	The teacher wrote questions on the chalkboard for learners to jot down.	Learners copied questions in their exercise books.
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Teacher: Mrs Igwe

Number of learners: 46

Grade: 10 C

Topic: Measurement of an area and distance on the map

Resources used: Pens, Calculators, Exercise books, Maps and a chalkboard.

*Table 3: Episodes and activities of Mrs Igwe's lesson.*

Time	Episode	Teacher activity	Learner activity
13:40– 13:45	Recap of the lesson on the measurement of an area and distance on the map.	The teacher issued Orthophoto and Topographical maps to learners. She then instructed them using English to answer questions she gave them.	The learners worked in groups of two or four to study the map and answered questions in the form of calculations.
13:45-14:10		The teacher used English only to explain certain calculations to learners so as to facilitate the lesson.	Learners worked in groups using their mother tongue (Zulu) to discuss activities so as to do calculations.
14:10-14:30		The teacher also used the chalkboard to draw a rectangle so as to distinguish between the concepts "length and breadth" in order to facilitate the lesson.	Learners used their exercise books and the chalkboard to show their understanding of concepts "length and breadth" to the teacher as well as working in groups to do calculations.

The above tables show summaries of classroom observations of my three participants. In Mr Zondi's classroom, the total number of learners who were present was 83. The topics that the teacher taught to the learners include: "Desert and Drought as well as rural-urban migration". I did not count the exact total number of textbooks that were available during the lesson but they were very few. As a result, most of the learners did not get them. Learners were sitting in groups of between five and six learners per group. The teacher began the lesson by recapping on the previous lesson based on "desertification and drought". Using English, he asked learners to give their own understanding of the two concepts based on "desertification and draught" which they learnt during the previous lesson. These two concepts were "Lamino and Elnino". One of the learners explained in English that Lamino is a cold phase whereas Elnino is a warm phase. Using English, he also asked learners to give the difference between concepts "drought and desertification". One of the learners gave an answer in English saying that drought means a "long period without rain". Another learner also used English and gave the definition of desertification saying that "it is a land that has been attacked by drought and as a result turned into a desert".

After the teacher has asked learners to distinguish between the above concepts and discussed their definitions as a class using simple English (everyday used informal English), he then asked learners about their causes as well as their different types. One of the learners used English to explain that drought is caused by Global warming (climate change due to a huge amount of gases such carbon dioxide and carbon monoxide being suspended in the atmosphere to trap the sun rays which results to the lower part of the atmosphere to become very warm). Another learner said the drought is caused by the greater amount of sunshine. The teacher listed the types of drought to the learners using English. For example he mentioned Meteological, Hydrological, Agricultural, Socio-economic and Ecological drought.

Apart from droughts, using English the teacher also mentioned the causes of desertification to the learners. Some of the causes of desertification he mentioned include: Human factors, overgrazing, over-cultivation and deforestation as well as population growth. He then continued to use English to explain these concepts respectively.

The teacher used English mostly throughout the lesson and also a bit of code switching in some instances. For example, when explaining some of the ways of minimising the effect of

drought, he switched from English to the learners' home language (Zulu) to facilitate the learners' understanding of this concept. The following passage portrays his sentiments:

*The government has invented many different programmes whereby the communities can be aware of the situation. We have seen also the ministers visiting different places where they do provide assistance, angithi, you have seen that angithi grade 10? So, that is one of the ways of minimising the effect, making the situation not much worse, nikwaz' uk'phila noma kuthiwa kunjani isimo sikhona. Then the programme requires money.*

Furthermore, using English the teacher also told the learners that people move from rural areas to urban areas due to different reasons. He indicated to the learners that this process is referred to as rural-urban migration. He further stated that when people move away from rural areas to urban areas the population decreases in rural areas. He therefore indicated that this is known as "rural depopulation". He therefore asked learners to tell him as to why people leave rural areas to urban areas. One of the learners indicated in English that in rural areas there is less job opportunities. Another learner said "it because of less development". The teacher agreed with the learners' answers and elaborated on them. The following excerpt portrays his explanation:

*The farmers are no longer productive as before, production has decreased, the farmer also is undergoing maybe a lot of expenses because the farmer is not making a lot of profit and then therefore he or she is forced to cut down (ehhe) the staff, retrench people, axoshe abantu angithi, kusale laba abay'ngcosana then therefore ses'yasukake awsekho umsebenzi emakhaya sesiya edolobheni.*

In the above passage the teacher is trying to explain some of the factors that cause rural-urban migration. He explained that when farmers in rural areas are no longer making good profits they tend to retrench people. As a result, people will be forced to stay at home doing nothing and eventually leave the area to urban areas in search for job opportunities.

There were no drawings made by the teacher on the chalkboard. He hardly used the chalkboard but relied more on verbal explanation. Some of the teaching practices used by the

teacher during the lesson included: explaining concepts using English, code switching, the usage of practical examples related to the learners' environment. There was no recapping of the lesson. There was also no assessment that was given to the learners.

In Mrs Hlela's lesson the total number of learners who were present was 32. The topics that she taught to learners were based on the internal structure of the Earth surface as well as the Continental drift. She distributed ten textbooks to the whole class so that learners share them amongst themselves. Learners were sitting in pairs facing toward the chalkboard where the teacher was standing and moving around teaching the learners. The teacher introduced the lesson by recapping on the internal structure of the Earth surface using English. She reminded learners that during the previous lesson they looked at different types of rocks, the forces that shape the Earth surface and the structure of the Earth surface. She also indicated that the planet Earth is situated on the layer called "crust". After saying that, she then asked questions to the learners. For example, she asked them to give the name of the layer that the earth surface or crust is on top of. The learners responded in a chorus using English, they said "it is a mantle". She continued and asked the next layer from the mantle and learners again responded in a chorus stating that "it is the outer core". She further said "after that one?" and the learners continued to respond in a chorus saying that "it is the inner core". There were some learners who managed to respond individually using English when asked questions. However, they said their answers in a very slow utterance after the teacher has already given them a hint based on the question she posed. For example, the teacher asked learners to give the name of the layer that separate the ocean from the mantle. Learners remained silent until she gave them a clue that the layer is in a form of a line or boundary that separate the mantle from the ocean. After that clue, one learner said it very slowly and quietly that it is a "moho-plane boundary".

The teacher further asked the question to the learners. For example, she said "how is the mantle like, what makes up the mantle?" "Is it like the crust?" The learners responded in a chorus saying "no" and she said so how is it like? One of the learners put her hand up and said it is sticky like. The teacher agreed with the learner by saying "yeah it is sticky or syrup-like because of the high temperature that is between 800 and 4000 °c". She further indicated that as a result the material that is found there is liquid or syrup-like which therefore causes the crust to float on it.

The teacher also tried her best to facilitate the lesson by explaining notes using textbooks and the chalkboard. For example, she issued textbooks to the learners so as to show pictures and notes based on the process of the continental drift. According to my observation, this was intended to facilitate the understanding of the technical lexis “continental drift” amongst the learners. This is due to the fact that learners were struggling to participate and to ask questions in English based on the concepts that were taught before being given textbooks. After the learners received textbooks and looked at the pictures, the verbal questions in English were also posed to them. Some of the learners managed to answer them individually. For example, one of the questions the teacher asked the learners is as follows:

*What is the name of one big continent that Alfred-Wagner stated that the world was once one continent?*

One of the learners indicated that it was known as “Pangae”. The teacher further elaborated that this “Pangae” simply means “all land or one land”. In addition, the questions were also written on the chalkboard and learners were instructed to jot them down in their exercise books so as to answer them as a homework. Some of the technical terms used by the teacher during the lesson include: Gondwana land, Laurasia, Pangae, Continental Drift, Tectonic Plates, Plates, Volcanoes as well as Earthquakes. The classwork and homework was given to the learners using a chalkboard.

In Mrs Igwe’s lesson the total number of learners who were present was 46. The topic that the teacher taught to learners was based on measuring the distance and an area on a map. There were no textbooks available for learners to use but maps such as Orthophoto and Topographical maps so as to discuss and solve map related questions. Learners were sitting in pairs, some in groups of four members facing towards the chalkboard where the teacher was standing. The educator introduced the lesson by informing learners that they will do a continuation of the previous lesson that was based on calculations of a distance and an area on a map. The language that was used by the teacher to communicate with learners was English only. IsiZulu was used by learners when they were talking to one another. Learners

tried to use English when talking to the teacher especially when answering her questions. They also used a bit of IsiZulu when they fail to express themselves in English. There were few technical terms used during the lesson as the whole lesson was based on calculations of an area and distance on a map. The teacher used English only as she could not speak the learners' language (Zulu).

Some of the concepts she taught or used during the lesson, include Topographical map, Orthophoto map, Area (length and breadth) as well as the Distance. She tried her best to explain some of these technical terms to learners using English. For example, she drew a rectangle on the chalkboard to explain the difference between the concepts "length and breadth". She enunciated that the length is the long side of the rectangle and the breadth is short side pointing to the sides of the drawn rectangle on the chalkboard.

The whole lesson was based on calculations of an area using the concepts "length and breadth". These concepts could not be taxonomised or broken down into different types and organised as the lesson was based on calculating the distance and an area rather than explaining concepts. Therefore, learners spent almost the whole lesson working in groups to calculate areas and distances between features on the map.

The strategy of group work was used during the lesson. That is, learners were made to work in groups to discuss map work based questions and to solve calculations. The method of teaching based on questioning was also used by the teacher using English while learners were busy working in groups trying to tackle map work activities. There was no recapping done and learners were given homework at the end of the lesson.

The findings from the three observed lessons are now summarised in the following themes:

#### **4.3.2 Theme 1: Teachers' practices to cater for Learners' English proficiency**

With regard to the teaching practices (strategies) of teaching Geography using English as a LOLT, the teachers had different teaching practices to cater for learners' English

proficiency during their lessons. Some of the responses given by participants to the interview questions were totally different from the teaching practices that I observed in one lesson.

During the interview, Mr Zondi expressed that some of his teaching practices he uses to overcome English barriers include trying to be coherent to learners whenever explaining notes to them. He elaborated that he does this by using simple English and synonyms. This means that he often uses more than one word when explaining any phenomenon to learners. He also encourages learners to express themselves in English whenever they are participating during the lesson. Furthermore, he indicated that he allows learners to give their vague understanding when asked questions thus develop it and come up with more simple examples based on answers they shared with the class. The following passage portrays his sentiments:

*I make sure that I do not use code switching or vernacular language so that learners get used to English usage. This as a result also makes it easier for them when they are learning or studying at home as well as answering questions during tests and exams. When explaining notes to learners, I also use practical examples; create a scenario related to a particular content or concepts. I also encourage learners to use English whenever they respond to questions. I allow learners to give their own understanding of the content or questions posed to them during lessons. I then come up with more simpler and clear examples developing from what they know using English.*

Some of the things mentioned by Mr Zondi in the above excerpt were not evident during the observation of his lesson. However, it is important to note that only one of the participants' lessons was observed due to time constraints. It is therefore possible that more of the teaching practices they mentioned during the interviews could have been observed if more classroom observations had been conducted. For example, in Mr Zondi's lesson it was not evident that he only teaches learners in English so as to improve their English vocabulary as he mentioned during the interview. Instead, he used some code switching, despite indicating in his interview that he does not do so. He also used Zulu on some occasions, more especially when he gives clarifications or when he was trying to facilitate participation amongst learners as well as trying to get more attention from all the learners. For example, during the lesson that was based on drought he explained the importance of preserving the environment and saving

food. While explaining he also referred to some practical examples using code switching so as to facilitate the understanding of the topic amongst the learners. The follow excerpt portrays his explanation:

*Meat is very very expensive, and you will notice that we only concentrate on buying chicken meet than beef. Even ekhaya kini njengamanje baqinisa ngasenkukhwini hhay ibeef bayayishalazela ngoba bayazi ukuthi isiyabiza. Have you noticed that grade ten?*

The learners in a chorus said “yes” and he said:

*So nani-ke sey'vani ke nishaye kancane.*

In the study on exploration of the experiences of foundation phase educators within a context of curriculum change in English literacy, Tolmen (2014) also indicated that code switching works effectively to get responses from learners during the lesson and to facilitate the learners' understanding. Thus, added that it creates better chances of success in the learner's learning (Tolmen, 2014). Furthermore, when the teacher asked questions based on the lesson using English, some of his learners but very few, gave their brief answers in English. Some of them were whispering their answers to one another using their mother tongue (Zulu). This demonstrated that these learners were afraid to participate as they had to express themselves in English.

Similarly, Mrs Hlela explained that she tries her best to ensure that she always teach in English because learners are tested in English. She pointed out that when learners respond in Zulu, she always encourages them to respond in English. She stated that she believes that this helps them to be proficient in English thereby find it easier to answer English questions during tests and exams. During her classroom observation that I conducted, it was evident that she mostly uses English whenever teaches the learners. Some of her learners tried to express themselves in English as they saw that she only uses English to conduct the lesson. However, it was evident that learners were not used to the practice of being taught in English only for the whole lesson. That is, they were not confident to participate independently. They

were also stumbling when trying to answer the teacher's questions individually. Therefore, in order to gain self-confidence that will allow them to participate, they gave their answers in a chorus form. Some of them remained silent for the entire lesson.

Mrs Igwe expressed that she asks learners who understand her when she is teaching to explain in English first and then in Zulu to other learners. Like both Mr Zondi and Mrs Hlela she stated that she encourages learners to speak English when presenting their work to the class. She also gives them individual tasks to research and then come back and teach the class in English. She further expresses that she prepares debates based on the content so as to allow learners to express their views in English thereby improve their English proficiency.

In her lesson, it was evident that she uses English only whenever teaches the learners. One of the reasons behind this was that she only speaks English and her home language Shona as she is originally from Zimbabwe and has not become fluent in the learners' language (Zulu). However, it was also to help expose learners to the usage of English as it is used as the LOLT as she mentioned above. During the lesson, her learners tried their best to participate in English but seemed not to be enthusiastic to do so. That is, it was just one or two individuals who participated using English after the teacher had been waiting very long for an answer of the question she posed to them. It was also evident that most of these learners were not confident about their answers and could not express themselves in English fluently. That is, they gave vague answers in chorus form and most of them remained silent.

In summary, these findings show that some of the teaching practices that these three teachers use in their classrooms to cater for learners' English proficiency are almost the same. That is, all three of them expressed that they use mostly English during their lessons when teaching the learners. One of the reasons for this practice is because they believe that this helps expose learners to English thereby make it easier for them to answer questions written in English during tests and exams.

### **4.3.3 Theme 2: Practices and resources used by teachers to overcome the lack of teaching resources.**

With regard to practices or resources that teachers use to overcome the lack of teaching resources in their lessons, Mr Zondi argued as follows:

*When I explore the meaning of concepts to explain to the learners in a more simple way I make use of a dictionary, internet as well as Wi-Fi-phone.*

He stated that these resources often make the process of teaching and learning in English easier for him and the learners. From the observation of his lesson, some of the resources he mentioned above were not available or utilised. I did not see a teacher or any learner with a dictionary on his/her desk. I also did not see the teacher or learners using the internet or the cell phone during the lesson so as to facilitate the lesson. However, there were few textbooks for learners to use and I observed that most of the learners did not have them on their desks.

Mrs Hlela on the other hand, indicated that she mostly relies on the usage of textbooks, photographs, worksheets, newspapers and a cell phone to make her lessons effective. During classroom observation that I conducted in her lesson, most of the things mentioned above were evident. It was only the usage of a cell phone that I did not see. For example, I observed that she distributed ten Geography textbooks amongst learners so that they will share them in order to go through pictures based on the processes of the drifting of the Earth to help facilitate the understanding of the concept “continental drift”. The teacher also used the chalkboard to make drawings related to the continental drift. She also used his textbook to try and clarify concepts to the learners.

Mrs Igwe expressed that usually her Geography lessons are based on the usage of textbooks, chalkboard and maps. During her lesson there were no textbooks available for learners to use. However, there were Topographical and Orthophoto maps as the lesson was based on the measurement of the distance and an area on a map. The learners worked in groups and used calculators to do calculations based on the area and the distance on a map. The teacher posed

questions to the learners and used the chalkboard to write down their answers in the form of calculations.

To sum up, in the above presentation of the data, it is apparent that these three educators use similar teaching resources to overcome the lack of teaching resources in their classrooms. That is, they almost all rely on the usage of the chalkboard, teachers' textbooks and learners' textbooks so that the lesson will be effective.

#### **4.4 Research Question 3: How do teachers' practices facilitate the learners' understanding of Geographical concepts using English as a LOLT?**

In the following section I present and analyse findings on how teachers' practices facilitate the learners' understanding of Geographical concepts using English as a LOLT. The analysis of these findings uses Naidoo's (2013) three principles of Geography discourse. These three principles indicate that learners' understanding of Geography concepts will be facilitated if a) teachers clearly explain the Geographical technical terms, b) show the organisation of these technical terms into taxonomies and c) show how technical terms are related through implication sequences of cause and effect. In the first subsection I will describe examples from all three teachers of how they explained Geography technical terms to the learners so as to facilitate the learners' understanding of these terms. In the second subsection I will describe examples from all three teachers of how they organised Geography technical terms into taxonomies so as to facilitate the understanding of these concepts amongst the learners. In the third subsection I will describe examples from all three teachers of how they make clear the sequence of cause and effect when explaining Geography technical terms to the learners.

##### **4.4.1 Explaining technical terms to facilitate learning amongst learners.**

With regard to teaching practices based on explanations of Geography technical terms so as to facilitate their understanding amongst learners using English as a LOLT, Mr Zondi enunciated as follows:

*I really try as much as possible to be clear to learners using simple English (everyday used informal English), terms or terminology. I also use more than one word in explaining one thing or explains one term more than once. I often use synonyms when explaining the content or concepts.*

During the lesson that I observed which was based on Desert, Drought and rural-urban migration, Mr Zondi began this lesson by recapping on the previous lesson using English. He asked learners to differentiate between concepts “Lamino and Elnino” which they discussed during the previous lesson under the topic “Desert and Drought”. One of the learners responded in a very simple English, indicating that:

*Lamino is a cold phase whereas Elnino is a warm phase.*

The teacher agreed with the learner and repeated “warm phase is Elnino and the cold phase is Lamino”. He also used English to ask learners to give the difference between concepts “drought and desertification”. One learner also gave a very simple answer in English saying that:

*Draught means a long period without rain.*

Another learner also used English and gave the definition of desertification stating that:

*It is a land that has been attacked by drought and as a result turned into a desert.*

Using the learners’ responses which have been presented in a very simple and informal English the teacher explained the aforementioned concepts. For example, he selected the concept “drought” and explained it in a more informal way using English and examples related to the learners’ environment. The following passage portrays his explanation.

*South Africa is currently experiencing a drought period whereby there is a shortage of rainfall. As from last year the water has become very scarce but the government has come into rescue by introducing different programmes to cope with the current situation.*

According to Wignel et al. 1993 cited in Naidoo (2013), for learners to understand Geography as a subject discipline, they need to know its technical terms (technical lexis). One of the ways to ensure that learners easily master technical terms is to teach them using informal English (everyday English) rather than using only the English scientific concepts during the explanation (Setati, 2002). Wignel et al. 1993 cited in Naidoo (2013) also state that the everyday used language (vernacular) also has formal meaning when used in Geography curriculum to explain technical terms. That is, the everyday used informal English can be more understandable amongst the learners while at the same time does not change the meaning of the technical term. Thus, this concurs with Setati (2002) that technical terms may be more meaningful to learners when explained using informal English (everyday English).

Apart from the above, while observing Mrs Hlela asking questions to the learners during her lesson based on the internal structure of the Earth surface and the continental drift, I discovered that some of the learners managed to respond individually using English and others were afraid to participate. However, those that participated using English said their answers in a very slow utterance after the teacher has already given them a hint based on the question she posed. For example, using English, she asked learners to give the name of the layer that separates the ocean from the mantle. Learners remained silent until she gave them a clue that:

*The layer is in a form of a line or boundary that separates the mantle from the ocean.*

After that clue, one learner said it very slowly and quietly using English, that:

*It is a "moho-plane boundary".*

One can therefore deduce that another method that teachers can use when explaining Geography technical terms is to make sure that they give hints to the learners whenever they ask them questions based on the explanation of the technical term and the learners fail to give the correct answer.

Furthermore, Mrs Hlela's clarification of the concept "mantle" that "it is sticky or syrup like" during the lesson also concurs with what Brock-Utne (2006) and Setati (2002) mentioned in the literature. That is, the authors stated that when teaching technical terms to learners, teachers should not just only explain using the scientific context (concepts) but should also

utilise the everyday English concepts (informal English) as an analogy so as to facilitate the learners' understanding of the technical terms.

Mrs Igwe expressed that she also uses more simplified concepts when teaching learners especially when she sees that they do not understand because of English usage. She further indicated that sometimes she just give them an individual task. For example, she will tell a learner to go and do an individual research on a certain topic or concepts and come back and teach the whole class in English. She indicated that she has seen this helping learners to understand concepts and to speak English especially learners who do not want to participate during the lesson. During her lesson based on the measurement of an area and distance on a map, she asked learners:

*What is the formula for measuring an area?*

The learners remained silent. She then gave them a clue, she said:

*The same formula you used in maths, is the same formula in what? in the map work.  
So what is the formula?*

One of the learners said:

*It length times breadth*

The teacher repeated: "it length times breadth that is correct". She then instructed learners to jot down the formula "Area = Length×Breadth" ( $A = L \times B$ ).

The above verbatim also concurs with the deduction that has been made earlier in this section. That is, whenever teachers teach concepts to learners and learners find it difficult to master them or to give correct answers related to those concepts, teachers should give them a hint or clue based on the question asked so as to facilitate their understanding of the technical term thus the participation.

Mrs Igwe further posed a question in English to the learners based on the aforementioned two concepts “length and breadth”. She asked them:

*How do you differentiate between length and breadth of a rectangle?*

All learners remained silent until she decided to draw a rectangle on the chalkboard. She then told learners to come and show the difference using the drawing on the chalkboard. No one came until she indicated:

*Nokuthula, come and show me the length and also the breadth.*

The learner went to the chalkboard and pointed to the sides and the teacher asked the learners “is she correct?” The learners responded in a chorus “no” and the teacher said why are you saying “no?” One of the learners said:

*The length is a longest side and the breadth is a short side.*

The teacher agreed with the learner’s answer by saying “that is correct”. She then pointed to the sides of a rectangle on the chalkboard and repeated to the learners that “the length is the longest side of the rectangle whereas the breadth is the short side”. After stating that and demonstrated the sides of a rectangle using the drawing on the chalkboard, she then allowed learners to work in groups to do calculations of the area on the map. Therefore, this also confirms that Geography concepts can be easily explained when giving hints or clues to the learners during the process of asking questions. It also affirms that through the usage of the resources such as a chalkboard to make drawings related to the topic of the day, the Geographical technical terms can be explained to the learners and learners can easily understand them.

In summary, the data in this subsection reveals that teaching practices used by these three participants when explaining Geography technical terms so as to facilitate the learners’ understanding of these Geography technical terms are almost the same. These teaching practices include using everyday used informal English concepts when explaining Geography technical terms instead of using only the scientific technical terms. It also shows that teachers

use a method of giving hints to the learners when asking questions based on the explanation of Geography technical terms so as to make it easier for learners to give correct answers. The data also shows that when explaining Geography technical terms, teachers also begin by asking questions to the learners before they give their explanation of the concepts. Therefore, from the answer that will be given by the learner they then develop it and put it in a more coherent and simpler explanation.

#### **4.4.2 Using taxonomies to facilitate learning amongst learners**

Taxonomy refers to the system of naming and organising of a Geographic phenomenon based on its importance principles of superordination or composition (Wignel et al, 1993 cited in Naidoo 2013). Superordination here refers to “where something is a type of or kind of something else” while composition mean “where something is a part of something else” (Wignel et al. 1993 cited in Naidoo 2013, p.7). Therefore, applying the taxonomy approach comprised of both superordination and composition principles, during his lesson Mr Zondi tried to clarify the concept “drought” to the learners. For example, relating to the principle “Superordination” he outlined the concept “drought” by listing different types of droughts to the learners using English. Some of the types of droughts he listed so as to facilitate the learner’s understanding of the concept “drought” include: Meteorological, Hydrological, Agricultural, Socio-economic and Ecological drought. After he has listed these types of droughts, he applied the principle “composition” so as to describe them to the learners. For example, he selected socio-economic and Agricultural droughts amongst these types of droughts and describe it to the learners. The following passage portrays his description:

*When drought affect people, because there is no way that we cannot be affected because we are part and parcel of what, of this planet earth. Whatever changes in terms of climate change, in terms of weather condition, whatever is an environmental obviously we are going to be affected so that type of drought is referred to as Socio-economic drought. Because now we have a shortage of food, food is scarce. We now have to pay more for food items. That is affecting us as people. Also when it comes to the Agricultural drought, it affect the agriculture, crop production then people have to be retrenched from the farm then therefore our fathers and mothers will now going to*

*lose jobs and then therefore we will have no income in the household then it is also becoming Socio-economic.*

Another example associated with the taxonomisation of concepts based on the internal structure of the Earth surface and the theory of continental drift during Mrs Hlela's lesson is that she reminded learners using English that during the previous lesson they looked at different types of rocks. During that lesson, she used the principle "superordination" to outline the technical lexis "rock" by listing its different types. These different types of rocks included igneous, metamorphic and sedimentary rocks. According to Wignel et al. 1993 cited in Naidoo (2013), this helps learners to understand the technical lexis "rock" as well as mastering that they are in different types and how they are formed (implication sequence of cause and effect). The teacher did not apply the principle "composition" as she did not give descriptions of these rocks. This is because she was only recapping on the previous lesson rather than teaching new concepts.

After recapping on the previous lesson, Mrs Hlela also reminded the learners that the planet Earth is situated on the layer called "crust". After reminding them, she then asked them some questions. For example, she said:

*What is the name of the layer that the earth surface or crust is on top of.*

The learners responded in a chorus using English and said "it is mantle". She continued and asked the name of the next layer from the mantle. The learners again responded in a chorus stating that "it is the outer core". She further said:

*After that one?*

The learners continued to respond in a chorus and said "it is the inner core". Wignel et al. 1993 cited in Naidoo (2013) termed this "a taxonomisation of the technical lexis so as to facilitate its understanding amongst the learners". That is, the learners with the help of the teacher named and organised layers chronologically that form the whole structure of the Earth surface or the crust so as to facilitate the understanding of the technical lexis "Earth surface or crust". The teacher further asked the question to the learners. For example, she said:

*How is the mantle like, what makes up the mantle? Is it like the crust?*

The learners responded in a chorus saying “no” and she said:

*So how is it like?*

One of the learners put her hand up and said “it is sticky like”. The teacher agreed with the learner by saying:

*Yeah it is sticky or syrup-like because of the high temperature that is between 800 and 4000 °c.*

She further indicated that as a result:

*The material that is found there is liquid or syrup-like which therefore cause the crust to float on it.*

The statement “how is the mantle like, what makes up the mantle” correlates with Wignel et al. 1993 cited in Naidoo (2013) approach of taxonomisation of the technical lexis so as to facilitate its understanding amongst the learners. That is, the teacher has posed these questions to the learners so as to caution learners that the mantle is made up of extremely hot molten rocks. She was also intending to show to the learners how the technical terms that make up the technical term “mantle” are related to each other (Wignel et al. 1993 cited in Naidoo 2013)

To sum up, this subsection reveals that both Mr Zondi and Mrs Hlela have relied on the usage of the taxonomisation of concepts during their lessons so as to facilitate the understanding of the concepts taught to the learners. In Mrs Igwe’s lesson the taxonomisation of concepts have not been applied or utilised because the lesson focused on calculations rather than the explanation of technical terms.

#### **4.4.3 Using implication sequences of cause and effect to facilitate learning amongst learners**

During the observation of Mr Zondi's lesson, I noticed that he asked learners to give the causes of the processes such as drought and desertification. In answering the teacher's question based on the causes of droughts, one of the learners stated in English that drought is caused by Global warming (climate change due to a huge amount of gases such carbon dioxide and carbon monoxide being suspended in the atmosphere to trap the sun rays which results to the lower part of the atmosphere to become very warm). Another learner said the drought is caused by the greater amount of sunshine and the teacher agreed with both of these learners' answers and further discussed them with the learners. For example, the teacher with the learners discussed the concept "drought" by looking at the factors that lead to the occurrence of drought such as the greater amount of ultraviolet rays (sun rays) and the shortage of rainfall. Martin 2006 cited in Naidoo (2013) termed this an "implication sequence of cause and effect in Geography discourse". This is one of the Geography principles that the author believe that the Geography teachers should use during the lesson when explaining concepts so as to facilitate the learners' understanding of Geography concepts.

Mr Zondi also explained the concept "desertification" using the principle of cause and effect so as to clarify for the learners the factors or processes that cause desertification. For example, he listed causes of desertification to the learners using English. Some of the causes of desertification he mentioned include: Human factors, overgrazing, population growth, over-cultivation and deforestation. He then explained these concepts respectively using English.

Furthermore, the teacher used practical examples related to the learners' daily life experiences like the type of education, accessibility to good infrastructures, job opportunities and so forth in explaining the concept "rural-urban migration". These factors which are believed to be highly likely to cause people to leave rural areas to urban areas were used to facilitate the understanding of the causes of "rural-urban migration" amongst learners. This is another example of the "cause and effect" discourse which Martin (2006 cited in Naidoo

2013) stated is used to define knowledge used in the scientific writing so as to facilitate the learners' understanding of the technical lexis.

Mr Zondi further reminded learners that during the previous lesson they also learnt about forces that shape the Earth surface. This suggests that in the previous lesson the teacher explained the concept "tectonic force" (the force exerted by the high temperature of the molten rocks in the mantle to the upper and lower part of the Earth surface) and thus how it shaped the earth surface. Martin 2006 cited in Naidoo (2013) called this "implication sequence of cause and effect of the concept "Earth surface". This helps to facilitate the understanding of the technical lexis "Earth surface" amongst the learners (Martin 2006 cited in Naidoo, 2013).

In relation to the above, during her lesson that was based on the internal structure of the Earth surface and the continental drift, Mrs Hlela agrees with the learner's answer regarding the state of the mantle. She said "Yeah it is sticky or syrup like because of the high temperature that is between 800 and 4000 °c". This statement concurs with Martin 2006 cited in Naidoo (2013) approach "implication sequence of cause and effect". That is, the teacher is trying to help learners to understand the causes of the state of the mantle. She indicated that the condition of the layer mantle which is "sticky or syrup like" is caused by extremely high temperatures of the inner part of the Earth surface that are between 800 and 4000 °c.

In summary, this subsection reveals that both Mr Zondi and Mrs Hlela have used the implication sequence of cause and effect approach in explaining Geography technical terms so as to facilitate the understanding of these technical terms amongst the learners. It says nothing about Mrs Igwe because her lesson was based on calculations rather than the explanation of technical terms.

## **4.5 Conclusion**

In this chapter the data that has been collected through semi-structured interviews and classroom observations has been presented and analysed. This has been done through the usage of the three critical questions of the study to serve as benchmarks at which the data should be analysed. Both inductive and deductive approaches of data analysis were adopted

to present and analyse the data. This means that the inductive approach has been used to analyse the interviews and as a result the categories or themes emerged. On the other hand, the deductive approach has been used to analyse the classroom observations using Naidoo's (2013) principles of Geography discourse. In the following chapter, the data that has been presented and analysed in this chapter will be discussed. The conclusions will then be drawn based on the findings.

## **CHAPTER 5: DISCUSSION AND CONCLUSION**

### **5.1. Introduction**

This chapter discusses key findings that have emerged from the data with the aim of answering three critical questions of this study.

### **5.2 Research Question 1: What are teachers' challenges of teaching Geography in rural schools using English as a LOLT?**

The findings show that some of the prevailing challenges often experienced by teachers when teaching Geography to ESL learners are related to the learners' ability to understand/ speak English, the work volume and number of concepts used in the subject Geography as well as the availability of relevant teaching resources.

#### **5.2.1 Learners' ability to understand/ speak English**

A key finding emerged from the data concerning this theme is that there are different factors related to challenges associated with the learners' ability to understand/ speak English as a LOLT. One of these factors includes the environment at which the learner locates and how it contributes to the learner's self-confidence as well as the attitude toward the usage of English as a LOLT. For example, Mrs Hlela pointed out that many learners she taught hail from rural areas where English is not used at all for communication. This implies that these learners find it very difficult to master any information conveyed in English during the lesson as they only hear this language at school. Therefore, this makes it a challenge for teachers to teach these learners using English as they are highly likely not to understand everything that is said in English by the teachers. Consequently, these learners may get poor results when being assessed in English during tests and examinations. Thus, all three participants believe that the usage of English as a LOLT to teach English second language learners impacts negatively on their school results.

### **5.2.2 The work volume and number of concepts used in the subject Geography.**

All three participants believe that Geography has a lot of notes with a variety of confusing concepts. Therefore, one can deduce that this means that it becomes very difficult for most of the ESL learners who are not competent in English to acquire these complicated Geography technical terms.

### **5.2.3 The availability of relevant teaching resources**

None of the three participants believe that their schools have sufficient teaching resources such as overhead projectors, computers, and so forth. According to the findings this has a negative impact on the process of learning and teaching of Geography content. This is because Geography has a lot of notes with many concepts that could be presented in the OHP or be printed in copies instead of letting learners to jot them down while at the same time expected to listen to the teacher. Therefore, this also contributes in learners achieving poor result in Geography.

## **5.3 Research Question 2: What are teachers' practices of teaching Geography using English as a LOLT?**

Some of the teaching practices used by teachers when teaching Geography using English as a LOLT include: practices used to cater for learners' English proficiency and practices as well as resources used by teachers during the lesson to cater for the lack of teaching resources.

### **5.3.1 The practices used to cater for learners' English proficiency**

The teaching practices used by the three teachers in their classrooms to cater for learners' English proficiency are almost the same. That is, all three of them expressed that they use mostly English during their lessons when teaching the learners. One of the reasons for this practice is that they believe that it helps expose learners to English thereby make it easier for

learners to answer questions written in English during tests and exams. However, during classroom observations, some of the teaching practices which some of the participants did not mention during the interview like “code switching and code mixing” were used to facilitate the learners’ understanding of the lesson.

### **5.3.2 Practices and resources used by teachers to overcome the lack of teaching resources**

The three educators use similar teaching resources to overcome the lack of teaching resources in their classrooms. That is, they almost all rely on the usage of the chalkboard, teachers’ textbooks and learners’ textbooks so that the lesson will be effective.

## **5.4 Research Question 3: How do teachers’ practices facilitate the learners’ understanding of Geographical concepts using English as a LOLT?**

The analysis of teachers’ practices used to facilitate the learners’ understanding of Geographical concepts is based on Naidoo’s (2013) three principles of Geography discourse. These principles include: the explanation of Geographical technical terms, the organisation of these technical terms into taxonomies and how they are related through implication sequences of cause and effect.

### **5.4.1 Explaining technical terms to facilitate learning amongst learners**

The teaching practices used by these three participants when explaining Geography technical terms to facilitate the learners’ understanding of these Geography technical terms are almost the same. These teaching practices include using everyday informal English concepts when explaining Geography technical terms instead of using scientific technical terms only. This implies that learners find it easier to comprehend English terms they hear often or use on daily basis rather than the English scientific terms contained in Science content (Geography content). Another finding shows that teachers use a method of giving hints to the learners whenever they ask them questions based on the explanation of Geography technical terms so as to make it easier for learners to give correct answers. The data also shows that when

explaining Geography technical terms, teachers also begin by asking questions to the learners before they give their explanation of the concepts. This helps teachers to see the learners' understanding of the content they are teaching to the learners. It also helps the teachers to know as to which teaching strategy will be more effective in teaching that particular content to the learners. Therefore, when learners give their answers to the teacher, the teacher develop it and put it in a more coherent and simpler explanation.

#### **5.4.2 Using taxonomies to facilitate learning amongst learners**

Both Mr Zondi and Mrs Hlela have relied on the usage of the taxonomisation of concepts during their lessons so as to facilitate the understanding of the concepts taught to the learners. Mrs Igwe's lesson did not apply the taxonomisation of concepts because the lesson was more based on calculations rather than the explanation of technical terms.

#### **5.4.3 Using implication sequences of cause and effect to facilitate learning amongst learners**

Both Mr Zondi and Mrs Hlela have used the implication sequences of cause and effect approach in explaining Geography technical terms so as to facilitate the learners' understanding of these technical terms. Mrs Igwe did not use the implication sequences of cause and effect to explain Geography technical terms because her lesson was based on calculations rather than the explanation of technical terms.

### **5.5 Limitations of the study**

This study aims to explore practices of three rural Geography teachers of teaching Geography to English second language learners using English as a LOLT. I acknowledge that the sample that has been used to conduct this study was too small. That is, only three teachers teaching Geography in grade 10 were used as participants of this study. Consequently, the results obtained in this study could not be generalizable to the big sample related to this study. I also recognise that there was only one classroom observation that was conducted for each and every participant due to time constraint. This could have a negative impact on the results of this study. This means that should many classroom observations were conducted, a true reflection results of the teachers' practices when teaching Geography using English as a LOLT could have been obtained. I also acknowledge that one of my participants was my

colleague. I believe that this could have also affected the results of this study. That is, some of the answers he gave me during the interview were not necessarily the truth. For example, he gave me answers that he thought I was expecting to hear instead of being genuine and honest when answering questions.

## **5.6 Discussion and implications of this study**

This study sheds some light on the usage of English as a LOLT when teaching Geography specifically. There is a very serious need for South African education particularly in rural schools to find ways to address challenges that teachers are faced with when teaching the curriculum to English second language learners using English as a LOLT. Perhaps the implementation of the department of education formal's workshops based on educating teachers on how to use English as a LOLT so as to teach ESL learners effectively could also be very fruitful for teachers.

The findings support Cyparsade et al's (2011) premise that, without proper acquisition and competency in the language of learning and teaching learners can find it very difficult to comprehend Science content when taught in English. Another key finding also related to Cyparsade et al.'s (2011) premise, states that most ESL learners obtain poor results in Science subjects particularly in Geography due to a difficulty to master information conveyed in English. This finding also confirms Simasuku, Kasanda and Smith's (2014) premise that learners can only progress successfully in their school subjects if they are confident and proficient in the language of learning and teaching. These two findings emphasize that English is of utmost importance to the learners' success at school since it is used as a LOLT. This study also concurs with Setati and Adler's (2000 cited in Vorster, 2008) suggestion that an act of re-voicing the learners' answers using simpler English words or correct technical terms in a Science ESL classrooms improve learners' understanding of the content or concept.

Furthermore, the finding that some of the participants, for example, Mr Zondi and Mrs Hlela during their lessons in some occasions switched from using English to using Zulu (learners' home language) so as to facilitate the learners' understanding of the lesson, confirms Diaz's (1983 cited in Simasuku, Kasanda and Smith, 2014) premise that the use of code switching as a teaching practice in an English second language classroom can support good learning

outcomes amongst ESL learners compared to English only classroom comprised of ESL learners.

## **5.7 Recommendations**

Based on the findings of this study, I recommend the following:

I recommend that there should be departmental workshops training educators about different strategies on the usage of English as a LOLT when teaching ESL learners. There should also be classroom-based support so as to give the feedback to the educators.

Teachers should also be encouraged to frequently use English in and outside the classroom when teaching or talking to the learners so as to help enhance the learners' English vocabulary.

Learners should also be motivated to use English when talking to one another inside and outside the school premises so as to improve their English competency.

Perhaps the department of education should also revise the language policy and start thinking about how can bilingual and multilingual issues be included when reforming the language policy.

## **5.8 Conclusion**

In conclusion, this qualitative case study has explored practices used by three rural teachers when teaching Geography to ESL learners using English as a LOLT. It has uncovered various challenges faced by these three teachers when conveying Geography curriculum to ESL learners using English as a LOLT. The data collection methods such as semi-structured interviews and classroom observations were used to generate data of this study. This process was done with due consideration for ethical aspects in qualitative research, during which participants' informed consents were obtained and their rights to privacy and anonymity was respected. However, the research had its limitations, for example, collecting the data from only three people means that the findings cannot be generalised to a large population of uMshwathi area since a small sample has been used. However, the case study means that rich data of the teachers' practices and experiences has been generated.

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## Appendices

### Appendix A: Requesting permission from the school principal

[luckykosikhona@yahoo.com](mailto:luckykosikhona@yahoo.com)

0729263975  
09 May 2016

The Principal  
Xxxx Secondary School  
P.O. Box 484  
Dalton  
3236

Dear Mrs xxxxx

#### APPLICATION TO CONDUCT RESEARCH IN YOUR SCHOOL

I hereby request permission to undertake research in your school.

I am a Master's student with the University of Kwa-Zulu Natal researching the topic "**An Exploration of Three Rural Teachers' Practices on the use of English as a Language of Learning and Teaching (LOLT) when teaching Geography.**" The research is conducted to meet the requirements pertaining to my studies at the University of Kwa-Zulu Natal.

I wish to seek permission to administer interviews and observing some of the educators' Geography lessons. The interviews will be completed voluntarily only by educators who are participating in the study. These participants should be Geography educators who have been teaching Geography or currently involved in the teaching of Geography at your school. If you have any further questions/ concerns or queries related to the study, please contact the researcher on 07292 63975 or [luckykosikhona@yahoo.com](mailto:luckykosikhona@yahoo.com)

If you have any questions or concerns about your rights as a study participant, or are concerned about an aspect of the study or the researchers then please contact:

UKZN humanities & Social Science research Ethics administration: Ms Phumelele Ximba  
031 260 3587, Email: [ximbap@ukzn.ac.za](mailto:ximbap@ukzn.ac.za)

Thanking you in anticipation

Yours faithfully

---

Mr LN Mahlaba  
Cell: 0729263975

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Prof. C Bertram  
(Supervisor)

## Appendix B: Requesting permission from participants

Faculty of Education  
College of Humanities,  
University of KwaZulu-Natal,  
Pietermaritzburg Campus.

Dear Participant

### INFORMED CONSENT LETTER

My name is Lucky Nkosikhona Mahlaba. I am a Master's student with the University of Kwa-Zulu Natal, Pietermaritzburg campus, South Africa. I am researching the topic “**An Exploration of Three Rural Teachers’ Practices on the use of English as a Language of Learning and Teaching (LOLT) when teaching Geography.** A case study methodology will be used to explore teachers’ practices of the use of English as the LOLT when teaching geography. I have identified your school context as one of my case studies. As such, to get the information related to this study, I am interested in asking you some questions.

Please note that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
- The interview may last for about 1 hour and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Data will be stored in secure storage and destroyed after 5 years.
- You have a choice to participate, not participate or stop participating in the research. You will not be penalized for taking such an action.
- Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Willing	Not willing
Audio equipment		
Photographic equipment		
Video equipment		

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number ref :HSS/0400/015M).If you have any further questions/ concerns or queries related to the study, please contact the researcher on 07292 63975 or luckynkosikhona@yahoo.com

If you have any questions or concerns about your rights as a study participant, or are concerned about an aspect of the study or the researchers then please contact:

UKZN humanities & Social Science research Ethics administration: Ms Phumelele Ximba  
031 260 3587, Email: ximbap@ukzn.ac.za

My supervisor is Prof. Carol Bertram who is located at the School of Education, Pietermaritzburg campus of the University of KwaZulu-Natal.  
Contact details: email: BertramC@ukzn.ac.za Phone number: 084 407 9827.

You may also contact the Research Office through:  
P. Mohun  
HSSREC Research Office,  
Tel: 031 260 4557 E-mail: [mohunp@ukzn.ac.za](mailto:mohunp@ukzn.ac.za)

Thank you for your contribution to this research.

**DECLARATION**

**I..... (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.**

**I understand that I am at liberty to withdraw from the project at any time, should I so desire.**

**SIGNATURE OF PARTICIPANT**

**DATE**

.....

.....

## Appendix C: Permission from the KZN Department of Education to conduct a study



education

Department:  
Education  
**PROVINCE OF KWAZULU-NATAL**

Enquiries: Nomangisi Ngubane

Tel: 033 392 1004

Ref.:2/4/8/410

Mr LN Mahlaba  
PO Box 419421  
IMBALI  
3219

Dear Mr Mahlaba

### PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: **"AN EXPLORATION OF THE RURAL TEACHERS' EXPERIENCES ON THE USE OF ENGLISH AS THE LANGUAGE OF LEARNING AND TEACHING (LOLT) WHEN TEACHING GEOGRAPHY IN GRADE 10"**, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 15 May 2015 to 30 June 2016.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Connie Kehologile at the contact numbers below.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report / dissertation / thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

UMgungundlovu District

  
**Nkdsinathi S.P. Sishi, PhD**  
Head of Department: Education  
Date: 12 May 2015

#### KWAZULU-NATAL DEPARTMENT OF EDUCATION

POSTAL: Private Bag X 9137, Pietermaritzburg, 3200, KwaZulu-Natal, Republic of South Africa ...dedicated to service and performance  
PHYSICAL: 247 Burger Street, Anton Lembede House, Pietermaritzburg, 3201. Tel. 033 392 1004 **beyond the call of duty**  
EMAIL ADDRESS: [kehologile.connie@kzndoe.gov.za](mailto:kehologile.connie@kzndoe.gov.za) / [Nomangisi.Ngubane@kzndoe.gov.za](mailto:Nomangisi.Ngubane@kzndoe.gov.za)  
CALL CENTRE: 0860 596 363; Fax: 033 392 1203 WEBSITE: [www.kzndoe.gov.za](http://www.kzndoe.gov.za)

## Appendix D: Ethical Clearance from the UKZN to conduct a study



03 June 2015

Mr Lucky N Mahlaba 205523866  
School of Education  
Edgewood Campus

Dear Ms Mahlaba

Protocol reference number: HSS/0400/013M

Project title: An Exploration of the Rural Teachers' Experiences on the use of English as the Language of Learning and Teaching (LOLT) when teaching Geography in Grade 10.

### Expedited Approval

In response to your application dated 21 April 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

  
.....  
Dr Shenuka Singh (Chair)

/pk

cc Supervisor: Dr T Mbatha  
cc Academic Leader Research: Professor P Morojele  
cc School Administrator: Ms B Bhengu, Ms T Khumalo & Mr S Mthembu

Humanities & Social Sciences Research Ethics Committee

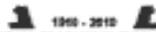
Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag 304001, Durban 4000

Telephone: +27 (0) 31 260 3681/33504557 Facsimile: +27 (0) 31 260 4809 Email: [2013bao@ukzn.ac.za](mailto:2013bao@ukzn.ac.za) / [shenuka.singh@ukzn.ac.za](mailto:shenuka.singh@ukzn.ac.za) / [ethics@ukzn.ac.za](mailto:ethics@ukzn.ac.za)

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## **Appendix E: The interview schedule for teachers**

### **Biographical questions (background)**

1. How long have you been teaching?

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2. What are your major teaching subjects?

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3. Why did you choose to teach Geography as one of your specializations?

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4. How long have you been teaching Geography?

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### **Interview schedule:**

#### **Questions addressing the research questions**

4. What do you enjoy most about teaching Geography? Is there a specific topic or section that you enjoy the most? Why?

5. What are your challenges of teaching Geography? Probe: To what extent does the use of English as a LOLT result in any challenges during the lessons?

---

6. What are your learners' challenges of learning Geography? Probe: To what extent do you think that English comprehension is one of the main challenges that your learners face when learning Geography?

---

7. In what ways does English as a LOLT influence your teaching of Geography?

---

8. What are your practices (strategies) of teaching Geography using English as a LOLT in grade 10? Probe: can you describe what you would typically do in a Geography lesson? What kinds of resources do you typically use?

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9. In what ways does English as a LOLT impact on your learners ability to learn Geography? Probe: What kind of teaching strategies and/or resources do you use to support them?

---

10. My grade 10 learners often struggle to easily master the technical concepts such as 'tectonic plate'. What approach do you use to help your learners understand this technical

lexis or any form of Geographical technical terms used in the Geography curriculum as a whole?

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11. Do you think that your learners understand the language used in the materials /textbooks used during the geography lessons? Explain.

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12. Below is a passage from a Geography textbook.

Igneous rock is the rock that forms when molten rocks (magma) cool down and become hard. On the other hand, metamorphic rock is described as a rock that is formed when the igneous rock is under a lot of pressure due to being exposed to the extreme heat exerted during the tectonic plate. Furthermore, a sedimentary rock is defined as a rock that forms when rubbles of the metamorphic and igneous rocks collect together to form embedded sediments (Wignel et al. 1993 cited in Naidoo 2013).

What would your learners find difficult about this passage? How would you go about helping them to make sense of it?

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## Appendix F: The observation schedule

### Classroom observation schedule

The classroom observation schedule of Geography lesson is based on the following:

Number of learners:

Topic:

Presence of textbooks: (how many learners have textbooks?)

- Organisation of the class
- Introduction of the lesson
- Language used in the classroom
- How do learners use or respond to the language during the lesson
- Presentation of Geographic technical terms by the teacher. Does the teacher use a range of different explanations/ examples/ analogies to explain the new technical concept? Does the teacher use Zulu to explain the new concept?
- List of Technical terms taught / new concepts taught
- Does the teacher make the technical concepts explicit?
- How does the teacher name, order or organise technical terms during the lesson?
- In what ways does the teacher make the taxonomies of concepts clear during the lesson? For example, by drawing diagrams on the board.
- In what ways does the teacher focus on the implication sequences of cause and effect? E.g. drawing diagrams on the board, using the textbook?
- What are the practices used by the teacher during the lesson?
- Consolidation of the work taught (recapping)
- Assessment of pupils' work

**Table 4: Example of episodes and activities of participants.**

Time	Episode	Teacher activity	Learner activity
10.03 – 10.10	Introduction to lesson, handing out of text books	Teacher explaining (using code switching/ use IsiZulu)	Learners settling into desks, taking out note books and pens

## Appendix G: An example of an interview transcript

### Biographical questions (background)

#### (Start of Interview)

I: Ngizozale ngibonge ukuthi ungivumele ukuthi ngik'interviewe. Yah, ngizocela ukuthi ngivele ngihlale kuwona amaquestions. Njengoba kade sengishilo nje ukuthi istudy sami it based on “**An Exploration of a Rural Teachers’ Practices on the use of English as a Language of Learning and Teaching (LOLT) when teaching Geography in Grade 10.**” Ngizozala ngamaquestions lawa a-based kwi lokhuzane...kwi biographical information. Eyok'qala, How long have you been teaching?

P: ...mhh it my twenty three ninety ninety one, so this is my twenty fifth year

I: Twenty fifth year?

P: Hhehe

I: Ok, so usuna twenty five years....[pause], ok. Ehee, what are your major teaching subjects?

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P: I teach Geography,..i am currently teaching Geography. Uhhmm, when I started as a teacher myself, uhhmm, I taught...Afrikaans

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I: Ok..., so Afrikaans is one of your specializations?

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P: Not necessarily, when I got the post the only post available was Afrikaans then I said...[laughter]....because I wanted to be closer to home.

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I: Ok... Why did you choose to teach Geography as one of your specializations?

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P: Uhhmm, I qualified as a PTD teacher, a primary teachers' diploma, I have a primary teachers diploma,...so I got the job at the secondary

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I: as a TPD? [asking for clarification]

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P: PTD

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I: PTD, PTD stands for?

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P: Primary..

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I: Ohh, primary?

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P: Primary Teachers Diploma.

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I: Ohh ok.....

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P: So when you do i-PTD you are like, you are exposed in a variety of subjects. So.... When I got the post at the secondary school..

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I: Mhhumhi

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P:Eehmm, there was Geography to be taught, eh with my experience of learning Environment studies in PTD...

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I: Ok..

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P: Then it was easy for me to venture to Geography

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I: to Geography ok ...

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P: Yes

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I:4. How long have you been teaching Geography?

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P: Eehmm,..[pause].... fifteen now of service

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I: Fifteen years..ok. Now let us move on to the open ended questions

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**Interview schedule:**

**Questions addressing the research questions.**

I:4. Ok, ahh... what do you enjoy most about teaching Geography? Is there a specific topic or section that you enjoy the most? Why?

P: Eehmmm, to teach learners about abstract subjects like Climate and Weather or factors that causes weather because we normally experience rain, sea rain and we always watch the temperature but we have never been exposed to what exactly brings about the weather that we experience so those such things.

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I: Mm, Ok.....

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P: as well as of course teaching the ....for example in grade, the settlement we live in settlements and the origin of settlements, the origin of towns..so we take for granted that we live in town but we don't know where it started

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I: Yah, ok... is there....this is more like a follow up question on what you have already said. Is there a specific topic or section that you enjoy the most.....and maybe why?

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P: Ok, eehmm [laughter]...settlement, settlements in South Africa the way it originated or the policies on settlements in South Africa are very different from worldwide.

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I: ok...

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P: when we learn about settlement we go back to the history where we are coming from, eeh mm....to where we are.

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I: ok..

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P:...and with South Africa developing, eehm so we see the reasons for development and compare where they are from where they have been and we also foresee the future that this is what needs to happen.

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---

I:..ok .. eehh, number five, what are your challenges of teaching Geography? Probe: To what extent does the use of English as a LOLT result in any challenges during the lessons?

---

---

P: Eehhm...teaching the learners in rural areas....they are not exposed to most of the things that we talk about. For example,....when they go to town, the area where I am coming from, the only area they go to town is only the down town part of the town, now when you are talking about the town you have to look at all the land use zones in town, sometimes they have no idea... because you think people live, .. they go to town they have an idea even of the street names they are walking in town and the street that takes them to the market square for example sometimes they can't tell eehh because

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---

I: They hardly go there...

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---

P: They hardly go there, maybe again they are not exposed or they are not interested because..come on if you go to a place you just need to know, just to look ohh this is the name of the street and so on and so on but they do not do that...

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---

I: ok....ehh to what extent does the use of English as a language of learning and teaching results in any challenges during the lessons?

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P: the challenges come when again rural learners not being exposed to the language itself ehhm some concepts you have to explain and you to relates to..back to the vernacular language just to make it ehhm easier for them so you are using the English as a language of teaching but you have to go back to IsiZulu because to explain and because of i-lack of exposure to the language, because of i-lack of exposure to maybe the resources, papers and yah...

---

I: ok..mmm..ehh...what are your learners' challenges of learning Geography?

---

P: Geography has a lot of concepts...since, ok most of them are not very hard working so they get confused because they..we agreed, the learners and I we are agreeing that Geography compare to the other subjects that they do is one simple subject but when they have to get the marks they do not get high marks because of lot of information and lot of information learners they are not very very they don't, they are not the learners who like to work hard or studying so as a results they don't obtain the maximum marks I would like.

---

I: ok.....ok.....ahhh to what extent does the use of English.....mhhh....ok..i think I was doing question number five, i was doing question number six I said to what are your learners challenges of learning Geography ok then, to what extent do... I mean, to what extent do you think that English comprehension is one of the main challenges that your learners face when learning when learning Geography?

---

P: It is indeed, Geography has a lot of case studies for them to respond to so because there is less exposure to the language in terms of in the lower grades they do not read much, they are not exposed to books as a results comprehension is a challenge to them, so caught a lot of activities require a lot of comprehension and learners they don't get it because they are not exposed in the lower grades

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I: ok..mhm..hhh, number seven..... in what ways does English as a LOLT influence your teaching of Geography, you as an educator?

---

P:....in what ways?

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I: In what ways does English as a LOLT influence your teaching of Geography, like in other words in what way do you think that having to use English language when conducting lesson or having to teach Geography maybe affect you or influences your lesson?

---

P: mh aahm,..because I understand that at the end of the day learners will be writing a paper in English so that pushes me to...everyday try my best to deliver my lesson in English..aaaahhh I try and..even if I ask questions..if they respond, sometimes they respond in Zulu it like ahhhmm mm they haven't said much because I always try to push them you see, try in English, say it in English because I know at the end of the day the questions are aaamm..in English..and ehh..they have to be used to answering the question..

---

I: ...in English language..

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P: in English language.

---

I: ok...aahh..what are your practices (strategies) of teaching Geography using English as a LOLT in grade 10?

---

P: What are my?

---

I: What are your practices (strategies) of teaching Geography using English as a LOLT in grade 10? In other words, what are the methods or what are your like aaahhhmm aaaaahm, what are the things that you usually do in your lessons that helps learners to easily comprehend eehh the content having to use English language?

---

P: Eehhm, one tries to simplify concepts easy as possible, one tries to use many examples, examples that relate to where they are or to their environment, eehhm, yah, we try by all means to..to make the Geography as part of their lives by bring it closer to them or using examples that they can use, even..even if it means you bring in resources eehh that will try and clarify the concept..

---

I:..mmhh,.....ok...mmhh..can you describe what you would typically do in a Geography lesson? Or what kind of resources do you typically use?

---

P: ok..let me start with the resources maybe, resources...we rely on the textbooks that the school has bought, of course there are other resources, books that are there that a teacher uses as eehh, as a reference in order to supplement the information on the..the learners textbooks eehhmm, the other first part of the question?

---

I: Eehhm, the first part was eehhm... can you describe what you would typically do, or can you describe what you would do in a Geography lesson?

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P: In a Geography lesson, when I come in, eehh, I usually start by asking eehh the..the ..the questions on the previous days, eehhm...the concepts that we touched on just to find out the..the..their level of understanding so that...if..if the level of understanding is..i can tell that it not where I would like it to be..i might re-do the concepts or if it ok than I move on to the concept that eehh, to the topic of the day...eehhm defining a concept, the concept I am talking about eehhm, explaining eehhm if it a map maybe you are given formulas then you....

---

P: Eehhm, sss..some learners do not have a problem with the language, they do their best, the level of understanding is much better and as a result of the understanding of the language they are able therefore to collect marks in those areas where comprehension kind of questions are eehhm if there are comprehension type of questions, those learners who have an

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understanding...ok then we will have a challenge with those learners of course who are not expose to the language you can even tell when they respond that in fact the..the..Geography is.. is not a problem in fact what is a problem is the language because one did not understand the question what the question required and as a result a learner will simple write whatever is that come to his mind..so it has a huge impact because one who understands get a lot of marks, one who do not understands get lost...

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I: mhmhm,ok...eehh..eeh..what kind of teaching strategies or resources do you use to support them, those that are struggling more especially?

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P: So those who are struggling you will try and give more activities, they will do worksheets or maybe the other resources that I have, they will use their textbooks and also supplement with the..the books that I have by giving them worksheet, eehh giving them more extra work....

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I: Ok.....

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P: Sometimes especially with grade 12 we even go an extra mile of eehh teaching them during holiday.., weekends.

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I: Ok..ok..

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P: So that we ensure that we move them from u-level one at least take them to level two.....

---

I: Ok..we are only left we three questions then we are done. Eehh..my grade 10 learners often struggle to easily master the technical concepts such as 'tectonic plate or the phrases in Geography like Tectonic plate'. What approach do you use to help your learners understand this technical lexis or any form of Geographical technical lexis used in the Geography curriculum as a whole?

---

P: Eehh..such topics, you you try to..they are not very easy and they are very abstract to the learners, so what you try to do is eehm use textbooks that that have those examples or graphhh..photographs eehh showing eeh the moving earth and eeh are realy try to use like, recently in the past years there is constantly volcanoes or earthquakes occurring on on an in different places, Asia and so on and so on, so those..those whenever there is a volcano from the news I collect as many examples or case studies so that I'm gonna link it eehh to..to that topic to prove indeed that the earth is actually moving so you...that is what I normally do from your phone if there are stories and you try and take up those from the newspapers eehh because those are a proof of the movement of the...abstract as they are from the textbooks the reality out there is a proof.

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I: Ok..mmhh...ok. Eehh what approach do you use to help your learners understand this technic.. ok I think I have touched that one. Ahh.. ok number eleven, do you think that your

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learners understand the language used in the materials /textbooks used during the geography lessons? Explain.

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P: Eehhm, sometimes the language is not very easy to understand but my job as a teacher is to try and simplify it as much as possible.

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I: Mhhhm...

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P: Aaah I try to..yes to do that and also not only relying on the examples on the textbook you come with other examples to try and explain because it..it is more about the concept than what a textbook is

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I: Ok..ok..the last question, below is a passage from a Geography textbook. I am going to read this passage it consists of four lines then there is a question based on this passage. Igneous,...I don't have another copy I simply read here..ok Igneous rock is the rock that forms when molten rocks (magma) cool down and become hard. On the other hand, metamorphic rock is described as a rock that is formed when the igneous rock is under a lot of pressure due to being exposed to the extreme heat exerted during the tectonic plate, for example. Furthermore, a sedimentary rock is defined as a rock that forms when rubbles of the metamorphic and igneous rocks collect together to form embedded sediments (Wignel et al. 1993 cited in Naidoo 2013). What would your learners find difficult about this passage? How would you go about helping them to make sense of it? What do you think or maybe must I repeat it?

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P: ...yaahm in think they will find it difficult eehh to understand the...the...where rocks, how rocks, these different rocks originate..they will find it difficult so (laughing).....so..I will try again to explain, so which book is this one? This one is taken, this is the book that this passage was taken from? Sorry..

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I: Eeh, no that is eeehh, yehh yehh Wignel, ohh no this is, this is eehh the passage that was eehh that was quoted from this..this is not the name of the book but these are the authors who have used this passage yahh to discuss about rocks, so then I took this eehh passage from that article which was written by these authors then I had to rephrase eehh I mean these four lines.

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P: Ok...yah they will find it difficult because it is indeed an abstract eehh concept, eehh understanding that... number one eehh there is the part down there which is hot, which is giving because they don't see it, so it will be very difficult to...to understand..

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I: Ok, can I please ask the next question..ok. The next question, I don't know if you were still explaining because I need, I need to make sure that I ask that question that eehh is connected to the question that you have already answered. Ok, the first question said eehh what would your learners find difficult about this passage? Then the second question is related to that one, it is more like a probing question. How would you go about helping them to make sense of it?

---

P: [silence]..... I will try and eeh...first explain maybe the concepts like molten rocks or magma, what is that or ...ok eehh molten magma what is that I will try and explain and eehh that it liquid rock because of the high temperature down there. Then again, explain how sedimentary rocks were formed, that they are coming from the sediments ok, and try and make some examples of sediments already that occurs here on earth that if you put them for a long time eehh if they will stay there for a long time they will eventually after years and years they will become a rock or something so..ah ah I will do my best just to simplify using the the..explaining the terms that are there or the meaning of the words that are there in that explanation I am hoping I will clarify the difference.

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I: Ok,...thank you very much for your time we are now done.

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