

**BARRIERS TO GEOGRAPHY LEARNING AND TEACHING IN  
GRADE 12 IN THE LIMPOPO PROVINCE**

by

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## DECLARATION

I declare that **BARRIERS TO GEOGRAPHY LEARNING AND TEACHING IN GRADE 12 IN THE LIMPOPO PROVINCE** is my own work and that I have referred to or quoted duly indicated and acknowledged by means of complete references. This work has not been submitted before for any other degree at any other institution in the RSA or abroad.

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## **DEDICATION**

The thesis is dedicated to my late grandfather Selepe Kwena Leshabela; my late parents Mokitle Selwalekgwadi Machesane and Tjiane Mosedi Mahwadijong.

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## ABSTRACT

The purpose of this research was to investigate teachers' professional proficiency in terms of geography as a subject and English as the language of learning and teaching, the level of difficulty of the textbooks in terms of their difficulty of terminologies and structure, and the impact of code-switching from LoLT into local African languages on learners' growth in geographical terminologies and communicativeness in English thinking in geography. These issues were considered by the researcher as barriers to learning and teaching of geography in grade 12 in the Limpopo Province.

For the investigation of the barriers, the researcher chose research design comprising qualitative, quantitative, explorative and descriptive approaches pertinent to the study. The central figure in the investigation was the learner; the study was underpinned by the constructivist approach. The researcher considered triangulation of methods when gathering data due to the comprehensiveness of the sought data. The method employed was to gather literature on similar studies conducted by scholars elsewhere to shed light to the researcher of the problem under investigation. Structured questionnaires, semi-structured interviews, participant observations were used to collect data on focal learning and teaching activities. The researcher was keen in determining how teachers employed their preferred methods of teaching geography and the attitudes and perceptions of the learners to the activities that were part of the lessons. The researcher involved (n=16) subject teachers, and administered a 20-item questionnaire to learners. (n=407) responded to a 15-item questionnaire. Curriculum teachers (n=10) were interviewed separately from the pool of the said (n=16), subject advisers (n=2) were interviewed to provide first-hand experience. The findings affirmed that there was poor professional proficiency; textbooks were a recognized learning barrier to second language English learners in terms of the difficulty of the language which was linked to geographical concepts coined in English, teachers' lack of linguistic competence in LoLT to supplement the difficult textbooks. The result was that this led to resorting to code-switching that deprived learners of practice in the language to attain effective learning and good performance in examinations.

## **KEY CONCEPTS**

Barriers; research design; constructivist approach; vision and mission of learning and teaching; qualitative research; quantitative research; explorative research; descriptive research; learning and teaching practices; language of learning and teaching; dual medium of instruction; code-switching; data gathering; questionnaires; participant observations; interview; document analysis; methods; preferences; attitudes; perceptions; learning content; curriculum; textbooks' level of difficulty; effective learning and teaching practices; professional proficiency; competence; expertise; repertoire of terminologies or concepts; home language; experiential or practical learning; theoretical learning; linguistic competence; performance; cognitive development; numeracy; literacy; enquiry; acquisition; framework; language across the curriculum; theoretical teaching and learning; assessment; geosciences; map-work; map-work types; LoLT proficiency.

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# **CHAPTER 1**

## **INTRODUCTION AND BACKGROUND**

### **1.1 INTRODUCTION TO THE STUDY**

The researcher chose to investigate the barriers to Geography learning and teaching in Grade 12; because there is an alarming and concerning decline in pass rates, specifically in Geography in the National Senior Certificate (NCS) examinations in the Limpopo Province. This study is presented in the context of the use of a second language in learning and teaching Geography in grade 12 in the Limpopo Province. The purpose of the investigation was to identify underpinning barriers to good performance in Geography, and to describe and analyse these barriers. Thereafter, the researcher recommends to the Department of Education (DoE) intervention strategies to redress the barriers, in order to improve the pass rates in the subject.

The concept of barriers is central to this study. The concept can be defined as hindrances or threats to effective learning and teaching in Grade 12 classrooms. The educational barriers to learners could emanate from many issues. The researcher believes the language of learning and teaching (LoLT) in Geography, the teachers' proficiency in both Geography and English as subjects, the learners' literacy in Geography/difficult English textbooks, and the use of code-switching from the (LoLT) into the mother-tongue (MT), act as possible barriers to Geography learning and teaching.

The researcher's intimation about the barriers is elicited from the registered 44.2 percentage average pass rate in Geography in the National Senior Certificate between 1999 and 2009.

The study is informed by scholarly works to argue why the LoLT can impact negatively on non-English speakers' performance in the Geography curriculum. Butt (2002:200) and Leat (2002:109) state that English provides the medium of learning Geography in an English context in every classroom. English should, therefore, be a major consideration in the planning and preparation of lessons. The English language used across the Geography curriculum for teaching and learning manifests in verbal interaction between the teacher and the learner, reading and

learning in Geography, and writing Geography content in English. Butt (2002:201) indicates that the use of English can be a barrier to pupils' learning if the Geography teacher fails to direct learners' mere talking about Geography to impact their actual learning. Geography language in itself is a recognised barrier to learners, because of its difficult geographical terminology (Butt, 2002:201). Butt (2002:210) emphasises that the use of the geographical technical language and concepts bars learners from learning; because the second-language learners do not have a good command of English (Kgosana, 2009:3).

Howie (2005:176) agrees with Butt's (2002:201) view that English is a critical and significant factor for learners as the medium of instruction in Geography. Howie (2005:176) argues how the English speakers – with English as their first language – attained higher scores in a Mathematics test. However, the African-language speakers' scores were lower in the same Mathematics test. The higher and lower scores scenario was attributed to the factor of English proficiency and the barrier in English proficiency in respect of proficient English speakers and non-proficient non-English speakers, respectively. The findings of Howie (2005:178) were based on the fact that non-English speakers or African-language speakers could not interpret the English tables, figures and illustrations.

And the failure was because of the content. These researchers stated that it appeared that the learners were unable to articulate their answers by writing in English. The researcher views Howie's findings (2005:178) to be pertinent to this study, because of the LoLT similarities of the stated barriers to Geography learning and teaching in Grade 12 in the Limpopo Province.

## **1.2 PROBLEM STATEMENT**

The pass rate of Grade 12 Geography learners in the National Senior Certificate examinations in the Limpopo Province has been on a disturbing decline between 1999 and 2009. This study hypothesises that some barriers to Geography learning and teaching may be at play. This problem is pursued by this study, which sets out to investigate the existence of the possible barriers.

### **1.3 AIM**

The aim of this study is to investigate the barriers that hinder or threaten quality teaching and learning in Geography in Grade 12 in the Limpopo Province. The purpose is to redress the barriers concerned in the classroom/learning situation by implementing the relevant intervention strategies, in order to attain better pass rates in schools.

### **1.4 BACKGROUND TO THE STUDY**

To put the background of the study in perspective, the researcher had to consult previous research, which was considered pertinent to this study's problem. McMillan and Schumacher (2000:593) claim that literature helps the study to seek pertinent knowledge from collateral previous empirical works. Leedy (1989:66) and Welman and Kruger (2001:30) assert that the previous empirical studies can provide this study with deeper insight and broad-spectrum knowledge, which could assist the study to formulate the research problem, in order to facilitate the complete planning of the study. The study suspected that the following problems constituted the barriers:

- The teacher is considered a barrier to teaching-learning geography with respect to second-language learners.
- The English used in the textbook is a barrier to second-language learners in the geography learning-teaching context.
- Code-switching from English into vernacular languages is experienced as a barrier to second-language learners, thereby depriving them of opportunities to grow in English and geography literacy.

Barriers to teaching and learning content (geography) in grade 12 in the Limpopo Province are a concern; because they hinder second-language learners from optimising their geographical knowledge. The learners' growth in geography-specific language and English literacy are considered the prime vision and mission – in order for teaching and learning to be satisfactorily accomplished. It is the core function/business of the content teacher. The content teacher is the prime mover for the educational activities referred to above to take effect. Howell and Lazarus (2003:5) consider the curriculum (geography) as one of the most significant barriers. The content knowledge of learners is dependent on how the teacher teaches the subject. Teaching geography

entails the medium of instruction (English), which the geography teacher must master well with specific teaching methods and strategies, in order to be effective in teaching (Howell & Lazarus 2003:5). In addition to the question of the geography-specific expertise of the teacher, Butt (2002:2000) states that the content and medium (English) of instruction are critical and crucial requirements for the content teacher.

As a general norm, effective teaching is discharged by a competent content and an English-speaking teacher. This scenario grants the second-language learners opportunities to optimise their content mastery and language-literacy skills. The competent teacher teaches from the textbook, conscious of the fact that textbooks contribute to the development of the geographical knowledge of the learner (Naish, 1992:188).

Incompetent geography teachers' failures are manifested in their inability to select and handle textbooks. Naish (1992:178) says that "textbooks are too difficult to be read by the students for whom they are intended". The incompetent geography teachers cannot supplement the difficult English of the textbook. This compromises the learner in terms of attaining meaningful learning. Their failure acts as a barrier for the learners; because second-language learners cannot deal with difficult textbooks independently in terms of English without the instructional help of the competent teacher. The competent teacher would always supplement the difficult textbook easily, in order for the second-language pupil to learn (Naish, 1992: 78; Naidoo, 2006:9).

Graves and Murphy (2000:229) assert that "there is no such thing as a perfect textbook. The teacher plays the primary role. Whatever book he has, it is for him to make his own selection from the material offered. He must use it, according to his conception of the lesson; and he must supplement it, as he thinks necessary." What this quote entails is that an expert geography teacher commands geography-specific expertise that helps her/him to conceive of her/his second-language learners through her/his constructivist conceptual framework. Such a competent teacher has a sufficient command of the subject to enhance the learners' learning.

The teaching-learning frameworks that the teacher uses enable the learners to learn effectively, especially when they are involved personally in learning. They own the learning process; and

they are enthused by taking all learning challenges head-on. They derive new experiences from the learning content (Vermeulen, 2000:15; Sawyer, 2006:302).

Code-switching is the fourth barrier in this study; and this has far-reaching consequences for the geography second-language learner. This dual medium of instruction is brought about in the geography teaching-learning contexts by expecting teachers to use English as the medium of instruction. Mahlalela-Thusi and Heugh (2001:24) maintain that "... there is no or sufficient terminology in African languages" to use, in order to supplement English for the second-language learners in the learning and teaching of geography. The teacher who practises code-switching would not be able to produce competent learners to become the future geographers in their own right (Rodseth, 2002:109).

Breidlid (2003:88) says the pro-code-switching practice teachers become barriers to effective geography learning. Instead of simplifying the difficult learning material for the second-language learners to benefit, they resort to a dual-medium instruction, which is counterproductive. They disadvantage the second-language learners through code-switching; because vernacular languages do not have a developed terminology/corpus in geography that enables the second-language learners to derive any benefit from the teaching.

In rounding off the background to the study, it must be indicated that a broader spectrum of literature was consulted to inform the study on how the identified barriers above are manifested, and how they can be addressed to improve learners' performance. The literature provided information on the barriers under the spotlight in the study; and it was probed and interpreted in Chapter 4. Subsequently, the data gathered in Chapter 4 will be discussed and validated in Chapter 5.

## **1.5 OBJECTIVES**

The objectives of this study were:

- To determine whether there is a link between the grade of difficulty of the textbooks written in English that second-language learners studying Geography must use and the Geography pass rates in examinations;

- To assess whether the medium of instruction (English) acts as a barrier to Grade 12 Geography learners;
- To determine the level of proficiency of teachers to teach Geography in Grade 12;
- To determine the impact of the code-switching practice from the medium of instruction (LoLT) into the mother-tongue (MT) in the Geography-learning situation.

## **1.6 RESEARCH QUESTIONS**

The research investigated the following questions:

- Is there a link between the standard of English used in the Geography textbooks with the second-language learners' understanding of the curriculum in relation to pass rates in examinations in Grade 12 in the Limpopo Province?
- Does English as LoLT act as a barrier to second-language learners in the Grade 12 Geography learning and teaching?
- Are Geography teachers adequately proficient in English and Geography to teach Grade 12 learners?
- Does code-switching practice from the LoLT into the MT in the Geography learning and teaching situation bar learners from attaining quality learning?

## **1.7 SIGNIFICANCE OF THE STUDY**

Upon completion of the study, Geography teachers and learners should be the beneficiaries – in the sense that teachers will overcome the barriers militating against their Geography teaching, currently resulting in lower pass rates in Geography Grade 12 learners. The implementation of recommended intervention strategies for teaching and learning Geography should help learners to acquire literacy in Geography. The acquisition of Geography literacy would benefit learners – by enabling them to follow careers in Geography.

## **1.8 THE LITERATURE REVIEW**

One of the essential areas in Geography teaching and learning is map-work. This area also poses many problems in Geography teaching. The researcher agrees with the view of Tshibalo and Schulze's (2000:230-243) on teaching map-work to Geography learners in the South African context as posing barriers to teachers' teaching. These scholars assert that many Geography

teachers use ineffectual traditional methods in teaching Geography. They advocate the cooperative map-learning approach to develop learners. Butt (2002:16-17) mentions that the maps and photographs are critical for learners in the learning of Geography. However, maps and photographs often pose perceptual and conceptual barriers to learners. They recommend that map-work needs to be handled by employing efficacious strategies to benefit learners and to grow their knowledge for their future career-paths.

Probyn et al. (2002:29) found in their research on language policy in four Eastern Cape education districts, based on the classroom context in which English was the LoLT interchanged with the home language of IsiXhosa and Sesotho across the curriculum, indicated sharp conflicting practitioners' views regarding code-switching. Anti-code-switching practitioners condemned the code-switching practice as being counterproductive in learners' curriculum language development. The anti-code-switching practitioners viewed the use of English as the LoLT promoting learners' communicativeness in the curriculum; while the pro-code-switching practice is counterproductive in the literacy of Geography development.

Morgan and Lambert (2005:66) argue, in the British context, that expert teachers in English and Geography could impact positively on learners' attainment of proficiency in English and Geography. On the other hand, inexpert teachers in English and Geography can be barriers to learners' quality learning in Geography. It is argued that effective and efficient Geography curriculum teachers could raise learners' awareness to literacy approaches in Geography. Proficient Geography teachers can develop in learners listening, speaking, reading and writing skills in English; as Geography is characterised by the learners' ability to explain facts in a communicative geographical manner.

Carstens (2008:1), on the question of Geography teachers' proficiency, advocates that Geography teachers should have a repertoire of Geography subject-specific terms to promote literacy in Geography; so that learners can attain Geography literacy optimally. Conversely, inefficient Geography teachers can be barriers to the quality learning of pupils in Geography. Therefore, it is critical for the Geography teachers to be able to guide the form and function of

English in the learners' learning in Geography-learning situations; so that they can overcome barriers to Geography learning and teaching (Butt, 2002:210-211).

Graves and Murphy's study (2000:228), based on a British background, focused on how critical Geography teachers are in the selection and handling of Geography textbooks, in order for the learners to learn effectively. They point out a consequential fact that "there is no such thing as a perfect textbook. The teacher plays a primordial part. Whatever book he has, it is for him to make his own selection from the material offered. He must use it, according to his conception of the lesson; and he must supplement it as he thinks necessary" (Graves & Murphy 2000:229).

Naidoo (2006:9) carried out a study in the Eastern Cape, which attests to the scholars' quotation that the Geography curriculum teacher must be a catalyst to barriers in learning and teaching at the initial stages of education; content selection should be made in view of the language level of the learners for whom the content is intended. The Geography curriculum teacher must look for criteria of readability, suitability of the textbook for English for the second-language learners, and link it with the ability of the subject teacher to supplement the difficult textbook.

The English should be user-friendly to the learners. If the teacher is not an expert in the curriculum, complicated unreadable textbooks might be selected, which learners can barely use independently. Such complicated textbooks in English are linked to ineffective and inefficient teachers, who are barriers to Geography learning and teaching. This seemingly manifests in lower pass rates in Geography in Grade 12 in the Limpopo Province.

In her study carried out in the rural North West, Macdonald (1990:4) emphasised that the teacher's proficiency in English as a subject and the medium of instruction are very critical issues, and consequential to the learners' learning. This scholar states that a proficient teacher in English as a LoLT can enable the teacher to handle textbooks with efficiency, in order to enrich learners' learning experiences or vice versa. Van Rooyen (1990:1-3) points out that unqualified and under-qualified teachers in English as a subject and as a LoLT experience difficulty in handling textbooks written in English.

They cannot facilitate the second-language (English) learners' learning problems. Breidlid (2003:88-102) notes that inefficient curriculum teachers in LoLT often resort to code-switching from the LoLT into the MT. The code-switching practice becomes a barrier to learning in Geography – especially when the content is difficult for the teacher herself/himself to handle; and the MT does not have a developed terminology/corpus to enable the pupil to learn in it. The language barrier is a further disadvantage; since the learners do not then acquire literacy in Geography to communicate properly in examinations/assessment tasks.

Balderstone (2000:114-115) mentions that the lack of literacy in Geography is a critical barrier because learners therefore can hardly construct meaning in learning Geography – when struggling in learning situations. In ideal situations, knowledgeable Geography teachers can create learning opportunities for learners to actively construct knowledge to optimise literacy and thinking in Geography. Effectively taught and perfectly guided learners develop verbal learning and discovery skills in learning Geography, whereby barriers to learning are overcome in learners.

Proficient Geography teachers provide learners with effective learning techniques, such as oral lessons, using textbooks and atlases.

The consequences of the LoLT are highlighted by Koch and Kriel (2005:633-636). Their argument is based on the reading or learning of Accounting at university level in the South African context, with special reference to the performance of non-speakers of English. They focus on the inability of the first-year students to apply their knowledge in English across the curriculum. It seems that these first-year students experienced similar curriculum learning barriers in Grade 12; because of their teachers' inefficiency in the respective curriculum. This is similar to the Grade 12 experiences in Geography in the Limpopo Province.

It seems that the Grade 12 learners lack English proficiency to read, conceptualise, interpret and analyse information from the textbooks with understanding and critical minds. The learners learning barriers seem to be compounded by the fact that Geography has geographical concepts,

which learners are challenged to acquire, as accentuated by Butt (2002:200) and Kgosana (2009:3).

## **1.9 THEORETICAL AND CONCEPTUAL FRAMEWORK**

The study is underpinned by the constructivist theoretical approach of Piaget, Vigotsky, Dewey and other adherents (Sawyer, 2006:137). The rationale for the choice was that geography is a practical subject; and it is best taught in a language that should be practised in context. The concepts of conceptual and theoretical framework entail the following aspects: the conceptual framework has to do with the factors that affect the employment of learner-centred learning methods. On the other hand, the theoretical framework has to do with a model that can enhance learner-centred learning in the teaching-learning of geography in grade 12 in the Limpopo Province.

The conceptual framework embraces approaches, such as content-based strategies and values in terms of teaching-learning Geography. The discussion of the conceptual framework underpinned by geography teaching methods will be interlaced with theories on how geography-specific knowledge can be meshed with geography-based literacy. The latter promotes teaching-learning methods. The curriculum is underpinned by constructivist theories; and their pertinent methods must be looked into. The content teacher must be viewed as the implementer of the specific content; and the learner must be seen as the central figure in the learning-teaching activity (Tshibalo & Schulze, 2002:231). This means that the content specialists should select the learning material, content-specific teaching methods and strategies to commensurate the learner to accomplish the optimal level of learning in Geography (Wilmot, 2003:313-318).

The rationale of the study for selecting the constructivist approach was to advocate that learning-teaching Geography is second-language/learner-centred. The learner-centred learning-teaching is underpinned by active, learning, cooperative and experiential learning approaches that are linked with pertinent strategies.

The adherents of Piaget (1954), like Sawyer (2006:122), hold the notion that “learning is an active constructive process...” This notion is contrary to the notion held by conventionalism or traditionalists that learning is dependent on the transmission and evaluation of knowledge by the subject expert to the novice (Sawyer, 2006:122). The constructivist approach says the active learner manipulates the learning material to create cognitive links from the new material to their own previously owned knowledge (Sawyer, 2006:122).

Active learners do self-evaluation of their own learning; and they monitor their own learning activities in context (Sawyer, 2006:258). This study upholds the constructivist approach for learning and teaching geography through the medium of instruction of English. This enables learners to grow in the language of geography, as well as to gain literacy in the second language. Houijer and Fourie (2009:135-151) consider geography as a subject that uses language in all activities in its contexts.

The constructivist approach espouses the practice of cooperative and experiential learning. The two approaches advocate the learning of geography by learners in manageable groups, in which the focus falls on optimal learning, based on individual learners, without restraints and prejudice (Cotton, 1995:130). The constructivists are pragmatists who are concrete experimenters. They derive pleasure out of trying out ideas in practice; hence they espouse experiential learning. They face learning challenges head-on with enthusiasm. They are enthused by getting involved with the phenomena in investigating problems critically – in order to arrive at pertinent solutions (Cotton, 1995:136-137).

The Geography learner must learn through conviction why the phenomena or facts behave the way they do. The learners’ urge for enquiry into the behavioural patterns in context, helps them to strike the balance with their immediate world and to survive. This is the ultimate vision and mission of learning Geography. Learners should end up valuing their world and, maintain and sustain the scarce resources on which their lives are dependent. They should end up being experts in their future career paths (Sawyer, 2006:137).

## **1.10 THE RESEARCH METHODOLOGY**

### **Overview**

This study has used both the quantitative and qualitative approaches; because the two approaches “complement each other rather well” (Montello & Sutton, 2006:40). The researcher used both these approaches for collecting and analysing the data, interpreting the findings, and drawing inferences by employing both approaches (Reswell, 2003:32). The qualitative approach was used as the basis for the study; because it enabled the researcher to articulate the problem in the language. Having formulated the study problem, the researcher introduced the problem, stated the problem, advanced the aims of the study, gave the objectives, listed the research questions, gave the significance of the study, laid out the background of the study, constructed the overview of the research design, listed the multiple research techniques used in data gathering, discussed the validity and reliability criteria – in terms of gathering instruments’ results consistency, indicated ethical considerations, gave definitions of the concepts, and gave the chapter divisions.

All the indicated steps were articulated by the language, which underpinned the qualitative method (Hooijer & Fourie, 2009:155-151). In summary, a distinctive characteristic of the qualitative research method is that it has non-numerical values. It uses language to articulate by virtue of its attempt to understand human attitudes and feelings about the barriers in focus. It attempts to investigate the meaning the learners and teachers have given to experiences in the context of their meaning. The choice of the qualitative research approach was that of Hooijer and Fourie, 2009:138).

The quantitative approach was also used in the study for data analysis on the barriers presented by the use of a second language in learning and teaching geography. The quantitative approach uses the manipulation of data, thereby expressing the results in numerical values. The statistical technique of the Likert scale was used to quantify the data of this study. The responses of the respondents to the statements probing the barriers in the spotlight were quantified in percentages. The rationale was to show correlations, equivalences, or contrasts of responses to practices or

attitudes in their specific contexts (Creswell, 2003:30). The responses were evoked by the respondents' conceptualisation of the barriers in focus (Montello & Sutton, 2006:40).

The other significance of the quantitative research method used in the study was that it was used to draw a sample from the population pool. The study used the random-sampling method, whereby numerical parameters were utilised to draw a representative sample for the study. The data analysis procedures were used; and inferences of evidence were drawn from the plotted data in the form of numbers quantified in percentages.

Hooijer and Fourie (2009:138) informed the researcher's decision to use the qualitative mode of enquiry: in an attempt to understand human (teaching and learning) phenomena as factors in investigating the meaning that teachers and learners give to learning and experience during the teaching and learning activities in the classroom. On the other hand, the quantitative methodology was employed, in order to gather the data from responses to structured questionnaires that utilised responses that require the use of the Likert scales.

This study focused on variable relationships, which constitute barriers to Geography learning and teaching. The variable relationships are constituted by the Geography teachers' effectiveness and efficiency regarding dispensing the learning content to learners in the learning situation. According to Welman and Kruger (2001:13-13), in simple and pertinent terms to this study, the expertise/proficiency of the Geography teacher is termed the independent variable. The independent variable practically affects and influences the dependent variable, which is the learner, who is ultimately driven by the independent variable to perform excellently in Geography – to the credit of the proficient teacher.

The expert Geography teacher manipulates and effects selected specific/suitable methods and strategies, in order to attain quality learning in Geography. However, the state of Geography learning and teaching in the Limpopo Province seems to be projecting a negative picture that prompted the researcher to carry out this research.

Another importance of the choice of the mixed/triangulation methods by this study, according to McMillan and Schumacher (2001:272) and Merriam (1999:204), is that the mixed-methods technique will boost the credibility of the enquiry into barriers to Geography learning and teaching in Grade 12 Geography in the Limpopo Province. The study was able to gather the data from different sources, in order to substantiate and confirm the findings on the barriers, and to realise the research objectives. The triangulation-method technique afforded the researcher with the opportunity to peruse journals and various pertinent documents related to barriers to Geography curriculum learning and teaching.

When using the quantitative mode of inquiry, the researcher used the Likert scales to record, interpret and analyse the variable relationships referred to above. The statistical technique is used in conducting an analysis of the 1999-2009 Grade 12 Geography results. The statistical application related to questionnaires and semi-structured questionnaires and interviews probing the posed research questions under 1.5 to reconcile with the 44.2% average for the pass rate of the 1999-2009 examination results.

### **1.10.1 The Research Design**

As a matter of principle, the researcher included a research design to direct the undertaking towards solving the problem of the study (being barriers presented by the use of a second language in teaching-learning geography in grade 12 in the Limpopo Province). The research design is, therefore, the plan for the study. The plan provides all the steps of the study, whereby the sought data will be gathered (Leedy, 1998:93). In this study, the researcher has planned to use the qualitative and quantitative methods complemented with multiple methods.

The main aim for the choice of the qualitative method was to obtain a detailed description of learning-teaching activities in geography contexts, as well as getting answers to the questions. For the quantitative method, the aim was to measure the respondents' responses to a pertinent set of questions through statistical analysis. Furthermore, with the multiple techniques, the study wanted to ensure the validity and reliability of the gathered data (Creswell, 2003:32). The research findings are discussed under 4.6 and 4.7, in Chapter 4; and the final results are discussed in Chapter 5.

The survey design was considered appropriate for this study, because of its merit. It can provide indispensable information, in order to provide valid and acceptable answers to the research problems or questions – and to realise the research objectives (Mouton, 2001:49). Cresswell (2003:32) and Montello and Sutton (2006:40) note that a survey of the literature, which forms the major part of the survey design helps to inform the research study. It helps the study to examine what other educational experts/scholars have researched, their findings and recommendations on similar problems they have investigated in the past. The relevant literature informed this study and its framework to conduct an investigation of the barriers to Geography learning and teaching in Grade 12 Geography in the Limpopo Province.

The study chose to use the purposeful method (McMillan & Schumacher, 2001:175-176; Kutame & Mulaudzi, 2010: 91-92) particularly with representative Geography curriculum teachers and learners in Geography offering Grade 12 secondary schools in the Limpopo Province. The researcher used this method for its effect on gathering valid data to guarantee generalisation to the Geography population pool represented in the sampled Geography teachers and learners. The study assumes that Geography teachers and learners can provide the looked-for data on the investigated barriers to Geography learning and teachers. The Geography teachers and learners are presumed to be informative and knowledgeable of experiences regarding the barriers stated as the problem for investigation (under 2).

The study targeted Grade 12 Geography teachers and learners for two reasons: Firstly, Grade 12 is a critical exit point intended to produce quality future geographers. Secondly, the Limpopo Province has registered a declining pass rate in Geography. The registered low pass rate in Geography over the said period militates against the prospect of realizing the production of quality geographers in the Limpopo Province. The state of affairs should be a matter of grave concern for the stakeholders, as well as the Department of Education (DoE); because the core business of the DoE is to produce self-sufficient geographers (Uline, Johnson, Hoy, Paul & Stroot, 2005:47-49; Department of Education, 2002:12).

### **1.10.2 Population and Sampling**

During 1999-2007 and 2008-2009, 442 732 learners wrote Geography Higher Grade (HG) during the National Curriculum Statement (NCS) Examinations at 1700 Geography-offering secondary schools in the Limpopo Province. The researcher applied the small-size sample technique of Kreicie and Morgan (1970: 607-610), in order to draw representative samples from the school population in respect of the subject geography. Four hundred and seven learners (407) from 16 geography-offering secondary schools in the 5 districts in the province were sampled. From each school, 76 learners were targeted. For the teacher interviews, the researcher drew ten teachers from different schools in two districts of the province, apart from those sampled for administering the questionnaires, as maintained above.

Finally, two (2) Curriculum advisers (CAs), one for each of the two papers written for the Geography examinations (NCS) in the Limpopo Province, were interviewed, according to the research-ethics procedure outlined below. The researcher views the examiners as critical and significant for the following reason: The examiners ensure that the mandate or the core function of the DoE is fulfilled by assessing teachers' effectiveness and efficiency on teaching and assessing learners by conducting the final examinations which learners write. The standardised national examinations gauge teachers' compliance in respect of the implementation of the departments' assessment policies and procedures, which are intended to be optimally discharged by the teacher to the learners. The ultimate function of the subject teacher is to produce knowledgeable learners/citizenry indicated by the learners' good performance.

Therefore, in the final analysis, the examiners provided the researcher with the data on the compliance of the teachers with respect to the adoption and employment of effective and efficient teaching, learning and assessment methods and strategies. Teachers' compliance should ensure that learners attain good performance in the NCS examinations in the Limpopo Province. The examiners' response to the interview consolidated and validated teachers' and learners' responses to the barriers to Geography learning and teaching in Grade 12 in the Limpopo Province.

### **1.10.3 The Data Collection**

The study chose to use multiple methods of data collection to enable triangulation. According to Hoggart, Lees and Davies (2002:67), “triangulation is the use of a series of complementary methods, in order to gain deeper insight into a research problem.” The study employed questionnaires and specifically semi-structured interview schedules targeting Geography curriculum practitioners – by probing the practical and related experiences challenging their performance. Equally critical are observations and documentary analysis based on the classroom activities and practices of teachers and learners of the Geography curriculum. Documentary analysis is relevant to the study; because the study was informed by subtle data difficult to elicit through questionnaire administration and observation of employment techniques.

Questionnaires, semi- and unstructured interviews, observations and documentary analysis were used to gather the data from the targeted samples which comprised the teacher and learner participants in their situations of practice and learning. Included in the qualitative mode of data collection are the structured interviews, tests, classroom observations and documentary analysis. The techniques were selected by the researcher for their efficacy to tap specifically sought data constituting presumed educational barriers. Specific questionnaires were employed to geographical practitioners and learners to probe the practical teaching and learning barriers in the Geography curriculum, in order to redress the barriers. The study visited and observed practical teaching and learning activities and perused all the critical documents used by the Geography teachers to determine the existence of the practical barriers to Geography teaching and learning.

The researcher shared with the subject-teachers the content challenges preventing teachers from realising effective and efficient teaching. On the other hand, the learners demonstrated learning challenges, such as how they struggle with the LoLT, and the complicated Geography textbooks in the learning situation. The gathered facts enabled the researcher to draw conclusions, findings and recommendations to the Department of Education (DoE), in order to redress the barriers and to attain better pass rates in Geography in Grade 12 in the Limpopo Province.

The researcher shared with the subject-teachers content challenges that were preventing teachers from realising effective and efficient teaching. Effective and efficient teaching is brought about

by competent teachers who can select good textbooks for their second-language learners. The textbook must be legible to the second-language learners; it must also be comprehensible to the second-language learner. The competent geography teacher must supplement the difficult English in which the textbook is written. The competent content teacher must provide instructional help to the second-language learner, to enable the second-language learner to learn from the amplified textbook adequately, and to thereby maximise learning.

#### **1.10.4 Questionnaires**

The study used the questionnaires specifically to formulate items to cover the assumed barriers to Geography learning and teaching in Grade 12 under investigation (Montello & Sutton, 2002:228). The objectives of the research questions were to quantitatively determine from the teachers, examiners and learners whether Geography textbooks written in English can prevent the second-language (English) learners from effective learning; to determine whether the Geography teacher has any conception of the impact of the barriers on the use of the difficult textbooks because of the complexity and the illegibility of the textbooks; to determine what the Geography teacher does to get learners to use textbooks effectively; to determine whether code-switching is practised; and if so, what levels of code-switching are used in the classroom; and how does code-switching become a barrier to Geography learning and teaching in Grade 12 in the Limpopo Province.

#### **1.10.5 Interviews**

The study employed this qualitative technique for the purpose of covering barriers to Geography learning and teaching. Ten (10) subject teachers were interviewed and the duration of the interviews was 30 minutes long. This technique was used to supplement the questionnaires and to ensure the validity and the reliability as data-gathering tools and to close any gaps that might have been created during the administration of the questionnaire. The researcher seized the opportunity to win the participants' confidence by assuring them of the confidentiality and anonymity of the data source they provided to address the research questions (McMillan & Schumacher, 2001:244; Montello & Sutton, 2006:228).

The relaxed one-on-one interview helped the researcher to pose questions and to evince unlimited response from the interviewees on the barriers. The researcher used tape to record the answers from the participants, as they responded to the barriers in Geography teaching and learning.

#### **1.10.6 Observations**

The research employed the observation technique on-site to guarantee the validity of the data gathering to make room for the necessary leeway that existed in data gathering through the employment of the questionnaires and interviews on the barriers presented by the use of a second language in geography learning-teaching in Grade 12 in the Limpopo Province. The researcher was aware that some of the participants would have biases towards the researcher's questions; and they could withhold their responses to the questions put to them. The researcher, therefore, used the opportunity to observe the teachers practically in their respective contexts.

The purpose of such observation is that the researcher wanted to observe whether the teachers were employing the constructivist approach or the traditional approach. The length of the observation was thirty-five minutes. The research was informed of the teachers' employment of suitable and effective strategies to teach learners, so that they learn optimally (McMillan & Schumacher, 2001:276).

#### **1.10.7 Documentary Analysis**

This research employed the documentary analysis technique qualitatively – with the intention of bridging any gaps that might exist – due to the weaknesses resulting from the employment of the questionnaires, interviews and observations in the process of the data gathering. The researcher employed documentary analysis to determine whether the textbooks used were syllabus-compliant; and also to determine the textbooks' complexity in terms of legibility and suitability of the English used regarding the linguistic level of the second-language (English) learners to access information to realise meaningful learning; to determine whether the subject teacher makes any effort to explain the difficult language; so that the learners can overcome the difficult English barriers and can learn effectively; to determine whether the teacher and learner portfolios are up to the expected standards; to determine whether the teacher and learner portfolio contents

are corresponding and authentic, and to determine whether the records of achievements are included.

Assessment tasks are critical aspects in the Geography-learning area. The research determined whether the prescribed number of tasks was included; whether the different forms of assessment were used; and whether the tasks were assessed, according to the agreed criteria. Furthermore, was the scoring or marking appropriate? Are the tasks varied on the level of difficulty? Do teachers provide details of the cognitive levels being assessed? Are the learners able to respond appropriately to the administered tasks? How is the authenticity of the portfolios proven? Do subject teachers identify tasks that can be used as exemplars? The researcher determined whether internal moderations were evidenced in the portfolios. The dates on which the different moderations were done were examined to determine whether they were consistent with the learners' portfolios. The researcher verified whether there were comments, and assessed the quality of the moderation.

### **1.11 THE DATA ANALYSIS**

The data are presented using the narrative and Likert- Scale methods. The researcher attempted to show the impact that the complex Geography textbooks written in English has on the second-language learners; the impact the LoLT has on learners in the learning situation; the impact of teachers' proficiency in the LoLT and learning area on the learners' learning; and the impact and consequences of code-switching on pupils' learning.

The questionnaires were analysed quantitatively using the Likert scale. The interviews, observations and documents were analysed qualitatively using coding methods; so that commonalities could be derived from the data. This enabled the researcher to identify themes from the data related to the barriers in Geography teaching.

The researcher deduced from the tables the participants' responses in correlation to the research questions, in order to determine whether the claims on the barriers to Geography learning and teaching hold water. The study confirmed the correlation for both Geography teachers and learners by use of the related figures, which were complemented by interviews, observations and

documentary analytical reports. The research made it clear whether barriers exist in Geography learning and teaching in the district. The researcher, therefore, finally stated with confidence whether or not, there is a significant correlation between teacher proficiency in LoLT and the curriculum area (geography) in Grade 12 pass rates in Geography in the Limpopo Province.

This means that the less-proficient the Geography teachers are in both English (LoLT) and Geography (content), the lower the pass rates that the learners will attain.

### **1.12 VALIDITY AND RELIABILITY**

Reliability and validity are closely related' and a researcher must consider both these qualities when selecting a research instrument. This means that a selected instrument should be both reliable and valid. The validity of a research instruments is when the instruments essentially measures what is was supposed to measure (Flowerdew & Martin, 1997:81). A measuring instrument that is unreliable cannot be valid. The validity of a research instrument is when the instrument essentially measures what it was intended to measure (Flowerdew & Martin, 1997:81). Reliability is the consistency of an instrument to measure an attribute or concept that it is designed to measure. The reliability of an instrument requires that if the same instrument is used at different times or administered to different subjects from the same population, the findings should be the same.

The researcher first did a pilot test to determine whether the instrument would address the problem adequately. The researcher took some of the questionnaires and administered them to a few teachers from a different group – in order to confirm the validity and reliability of the instruments.

Prior to the data collection, the researcher conducted a pilot study at a school with 26 learners and 1 teacher in a district. Teacher and learner questionnaires were administered to the teacher and learners, in order to determine the intelligibility and relevance of the constructed respective questionnaire to the targets, which ultimately determined the feasibility of carrying out the investigation barriers to geography learning and teaching in grade 12 in the Limpopo province. The observations were made at one school from one circuit of the district. The reasons for

conducting in-depth interviews and observations in this research study were discussed in detail in Chapter 1; and they are repeated in Chapter 3 (Montello & Sutton, 2006:107; Mellish, Brink & Paton, 1998:331).

### **1.13 ETHICAL CONSIDERATIONS**

It was incumbent on the researcher to obtain approval from the authorities in the Limpopo Department of Education to conduct research in their schools. The approval was sought in a letter issued by the research unit of the University of Limpopo, introducing and sanctioning the researcher as a bona fide research student of the Limpopo Department of Education (LDE). The researcher was then introduced by letter to all the relevant provincial levels of education. The researcher's questionnaires were accompanied by a letter assuring the principals of compliance with the rules and regulations of the LDE regarding research ethics.

The researcher informed the respective participants of the aims, the purpose and the probable publication of the research data contributed by them. Another critical point was that the participants gave their consent before they participated in the information sharing. The aim of informing the participants in the undertaking was in compliance with the research principle that the participants have a right to withdraw from participating; and they have a right to remain anonymous (Lowe, 2007:19-20). According to Lichtman (2010:54-55), a participant's privacy, confidentiality and anonymity were guaranteed by getting them to sign an informed consent form that explained these ethical issues.

Over and above the said principles above, the researcher was obliged to inform the participants of the nature of the study – so that they could choose whether or not to participate (Lichtman 2010:55). It was critical to the researcher to maintain and sustain the rapport and friendship, in order to ensure the confidentiality of the information. Intrusiveness by the researcher into the personal matters of the participants was avoided at all costs, in order to prevent withdrawal of the participants from providing the needed responses to the focused questions of this research study (Lichtman, 2010:56-57).

The researcher was cognizant of the fact that the employment of a qualitative research design dictates to the researcher the need to consider the issue of the research ethics (McMillan & Schumacher, 2001:420-422). Therefore, the researcher was aware that the data-gathering exercise from the participants is a sensitive exercise. The exercise needs the mutual respect and trust of the researcher with all the participants who are used in the study. The researcher secured a letter of permission and introduction by the University of Limpopo to the DoE and the secondary schools, where the research activities were to be implemented. The researcher wrote personal applications to the individual sampled schools' management, asking for permission to enter their schools. The researcher asked for permission to access critical confidential documents containing the much-needed information on barriers to Geography learning. Furthermore, the researcher assured the authorities that the records would be treated confidentially and anonymously. The researcher motivated and appealed to the participants to be aware that they have an interest in the investigated problem. Their participation in the research boosted the researcher's efforts to arrive at answers to the research questions, in order to meet their needs and interest, and to accomplish good pass rates in Geography in Grade 12.

The 1999-2009 Grade 12 data related to geography results were applied for and obtained from the Examination Section of the Limpopo Provincial office. This database was analysed to determine the performance rate in geography during the indicated period.

#### **1.14 DEFINITION OF THE CONCEPTS**

**Barriers** are obstructs/hindrances towards the attainment of intended outcomes aspired to being realised through the employment of teaching strategies and learning activities in the particular context (Macdonald, 1990:4; Mkhize, 2012:28; Dale, Ferguson & Robin, 1988:23).

**Subject expertise** encompasses the content plus effective and efficient methods, strategies and related classroom-based approaches, how subject knowledge is selected to suit the level of the learner, the value or worth of the imparted knowledge to the learner for learners' wellbeing in the present context and their future career paths (Butt, 2011:176).

**A second-language learner** is a non-English speaker who uses English as the medium of instruction and communication in learning environments (Macdonald, 1990:4).

**The constructivist approach** posits that learners are active knowledge constructors through interaction between their own ideas and experiences with concrete reality in the context to grow conceptually and to become cognitively underpinned by meta-language development (Chaille, 2008:4-5; Ho, 2010:20).

**Subject-specific language/terminologies/concept**, this entails a vocabulary that is peculiar to content/subject-based technical language (Radnor, 2002:14; Butt, 2002:200, Plüddemann, 2002:55).

**Co-operative learning** is participative learning, where the learners learn in manageable groups of peers, it is underpinned by sharing in a discourse (Tshibalo & Schulze, 2000:231).

**Experiential learning** is individual learner-centred. It calls for caring for attaining effective learning results/outcomes with peculiar learners, in order to maximise their results in the subject/learning materials (Turner-Bisset 2001:61; Sawyer, 2006:122).

**Curriculum-specific knowledge** is the knowledge peculiar to a specific content evoked by the use of special technical language needs to be attained by learners (Turner-Bisset, 2001:61).

**Conventional teaching** is a practice, which renders the learners to the status of a passive recipient of information from the teacher rather than being actively involved, as the constructor of knowledge (Sawyer, 2006:122).

**Professional proficiency** entails subject-specific knowledge that adheres to the view held by Turner-Bisset (2000:147) that teaching is “a knowledge-based profession”; which manifests command of curriculum knowledge and command of knowledge-integrated subjects e.g. integrated system of related sciences: biology, agriculture, geography, physical sciences, which are usually taught in isolation (Cavanagh, 2007:13; Ho, 2010:20).

**Meta-language/meta-linguistics development** entails content-specific language appropriation by the learner, whereby the content is actively interpreted and analysed in the language of the curriculum (Davis & Davis, 2000:85; Davis & Reed, 2003:101-112).

**Literacy** is the command of a higher-order repertoire of vocabulary, whereby a learner can practise appropriately in any learning/communication contexts (Sawyer, 2006:300).

**Knowledge construction** is an active process, whereby learners are actively involved with the learning material, which they link cognitively with their existing knowledge (Sawyer, 2008:122).

**Cognition** is the ability of the learner to think critically of perceived and conceived information in the learning situation (Ashman & Conway, 1997:41).

**Meta-cognition** entails learners' ability to discern a learning activity, derive knowledge from it and make it of their own to apply to tackle the various tasks in learning situations (Kruger & Adam 1993:180; Davis, 1998:154).

**Communicative competence** is the ability of the learner to participate actively and meaningfully in a discourse appropriating content-specific language pertinent to obtaining the learning contexts.

## 1.15 CHAPTER DIVISION

The research work consists of six chapters; and these are briefly described as follows:

Chapter 1 introduces the study, the background to the study, the problem, and the aim, the objectives of the study, the research questions, and the significance of the study, a definition of the concepts, an overview of the research design, the research design, and the ethical considerations.

Chapter 2 presents the theoretical framework. It focuses on the barriers presented by the use of a second-language learner in learning and teaching Geography in grade 12 in Limpopo Province.

Chapter 3 discusses an overview of the methods, the research design, the sampling procedures, the data-collection instruments, the data-collection process, the instruments used for administering the date, and a summary of the chapter.

Chapter 4 focuses on the empirical study, the data-analysis interpretation and the research findings on the barriers to learning and teaching geography. It discusses the results of the study, the interpretation and the analysis of the barriers in the study.

Chapter 5 draws conclusions on the study, makes pertinent recommendations, highlights limitations to the study, spells out the contributions of the study, and makes some suggestions for further research on the issue.

### **1.16 SUMMARY OF CHAPTER**

There is a decrease in performance rates of Grade 12 learners in the Limpopo Province, due to barriers to Geography learning and teaching. The research deduced from the results borne in tables that teachers' proficiency in the medium of instruction and Geography curriculum decreases learners' performance/pass rate in Geography. The research indicates intervention strategies (in the final chapter) to effect efficient and effective teaching and learning, and to improve the performance in the subject in Grade 12 in the Limpopo Province.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

The purpose of this chapter is to explore the literature, and to inform the research study of the barriers presented by the use of a second language in learning-teaching Geography in Grade 12 in the Limpopo Province. The study chose the qualitative and quantitative research designs, supplemented by the multiple methods for the investigation of the problem. The design, according to Hooijer and Fourie (2009:138) “will help the researcher in the attempt to understand human phenomena and the meaning that people give to the events they experience.” The survey design is underpinned by learner-centeredness and the constructivist theory, which forms part of the triangulation / multi-methods. The multi-methods are critical for gathering data on barriers to Geography learning and teaching in the province – by virtue of their comprehensiveness for data gathering on the teaching practice and the learning environment (Koekemoer & Olivier, 2002:33).

The research study consulted scholarly literature on the curriculum and related teaching and learning challenges; and it looked specifically into: Firstly, teachers’ proficiency in the second language or medium of instruction in teaching-learning Geography. The second language in the medium of instruction (English) is a major barrier to Geography teaching and learning (Govender, 2010:4). The content teacher dispenses the learning material to the second-language learner where English is the second language. This vehicle of Geography teaching and learning must be simplified, in order to suit the second-language learner’s comprehension level to conceptualise the content, and to grow cognitively and meta-cognitively; if the content teacher is not communicatively competent in English, s/he cannot assist the learner by using mind-mapping terms of planning and preparing lessons to suit their comprehension level of English (Butt, 2002:200). Secondly, the Geography teacher must be competent in the subject. The Geography teacher must be proficient in Geography-specific language, which is fundamental for executing teaching and learning activities. If the teacher does not have content expertise, s/he becomes a barrier to the second-language pupil’s learning. S/he would not be able to help the subject

learners with instructional guidance, in order for them to be able to learn the subject independently by virtue of the learning skill s/he would have dispensed to them (Radnor, 2002:14). Thirdly, the Geography teacher must be able to select suitable textbooks for the second-language learners.

The Geography curriculum is incomplete without geography textbooks. Howell and Lazarus (2003:5) state that “the most significant barrier to learning is the curriculum itself ... this includes: What is taught and the language/medium of instruction”. The textbook must be readable and comprehensible; so that it enables the second-language learners to read on their own. If it is difficult for them, due to the level, which is beyond the comprehension of the second-language learners, the textbook then becomes a barrier to learning Geography. If the Geography teacher fails to supplement the textbook’s English, and explain the Geographical concepts beyond the learners’ conceptual level, then both the incompetent Geography teacher and the textbook would be considered barriers to the second-language learner. Fourthly, code-switching practice from English into the vernacular languages is a barrier to second-language learners; because it deprives them of opportunities to attain Geography-specific knowledge and language literacy.

The code-switching practice is encouraged by the incompetent teacher of Geography. Breidlid (2003:83) says that the curriculum-challenged teacher is tempted to shield his curriculum-specific language weakness behind code-switching from English into the vernacular languages. This practice impoverishes second-language learners of Geographical knowledge and English competence; because they are not actively exposed to learning the content and English. The claim is due to the fact that, according to Mahlaela-Thusi and Heugh (2001:24), “there is no or insufficient terminology in the African languages.” This means that the African languages have not developed a Geography corpus, through which second-language learners can benefit from the use of the mother tongue in Geography teaching and learning (Koekemoer & Olivier, 2002:33).

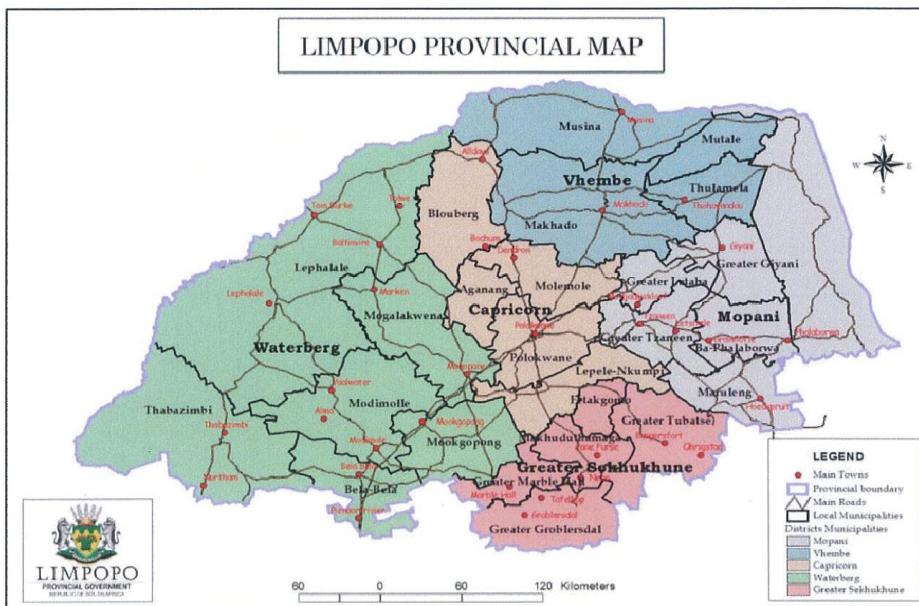
The stated barriers/factors are purported by the researcher to have a bearing on learners’ poor performance in Geography in the Limpopo Province. In justifying the researchers’ claim that the stated barriers hold water, scholarly literature on the Geography curriculum and English across

the Geography curriculum is extensively explored to inform the research, in order to validate the claim's reason for pursuing the investigation. The research study delimits the area of investigation before it explores the literature to unpack the stated barriers to Geography learning and teaching in secondary schools in Capricorn, Mopani, Sekhukhune, Vhembe and Waterberg districts, comprising together the Limpopo Department of Education.

## 2.2 THE GEOGRAPHIC DELIMITATION OF THE LIMPOPO PROVINCIAL EDUCATION DISTRICTS

The five districts comprising the Limpopo Province are as follows: Capricorn district consists of the Vhembe district; and this consists of 27 circuits; while the Waterberg consists of 18 circuits. Therefore, the whole of the Limpopo Department of Education is made up of 135 circuits in all; and the five districts of Education are depicted in Figure 2.1.

Figure 2.1: Map of the districts



## 2.3 THE LITERATURE REVIEW ON GEOGRAPHY

According to Nunan (1992:216), Creswell (2003:32) and Montello and Sutton (2006:40), the purpose for exploring specific-field literature is to tap indispensable information to provide background information on the research question. The information enabled, initially, the researcher to frame a problem, and then to construct specific questionnaire items to probe and

gather the data on the problem under investigation. Equally critical is the choice of a theoretical framework (Creswell, 2003:32). Interlaced with the theoretical framework is the research design, which is critical for the data gathering; and this is central to the identified factors impacting on the problem.

The other significance of exploring specific field-scholarly literature, according to Montello and Sutton (2006:40), is to acquire information from previous studies, which could provide answer/s to the very question being pursued. The informative scholarly literature pertinent to the research study alerts the researcher of problems and potential pitfalls; and it provides ways to circumvent or limit/eradicate those pitfalls in the investigation of the problem. Put succinctly, the study uses the literature, which is pertinent to the solution of barriers to good performance attainment in Geography learning and teaching.

The researcher is obligated, before broadly delving into a literature exploration pertinent to the research study's problem of barriers to geography learning and teaching in grade 12 in the Limpopo Education Districts, to profile cursorily the importance of the Geography curriculum to learners. Butt (2002:4) highlights the fact that Geography learning promotes in learners a sense of awareness of relating to their immediate environments, and how to sustain the relationship to survive mutually. Van Schie (2011:22) points out the importance of knowledge acquisition of adaptation, biodiversity, health, and environmental policies by learners to sustain their lives in their environment.

Marchant (1971), Naish (1992:44-45), Kent (2002:4) and Beets et al, (2006:vii-viii) opined the view that the acquisition of geographical knowledge enables many learners to develop a habit of observing, judging by power of reasoning, and a taste for carrying out scientific research. The learner develops useful techniques of study used currently and in the future. The learner absorbs and sustains co-operation with the people of the world. They know where they stand in relation to their fellowmen, cultivate love for their country, see the interdependence between man and his environment, and sustain their world for their survival. They understand other people, and learn to tolerate their way of life and their problems.

This knowledge helps the learner to grow relatively broad-minded. The learner becomes an intelligent and cosmopolitan citizen. They compare themselves with their fellowmen to develop into an informed, appreciative and understandable citizen related to the whole world, in which they live, and to which they relate to in one way or another (Nichol, 1984:12).

Kent (2002:4) says that Geographical knowledge helps the learner to advanced growth in understanding the social and international dynamics of life-relatedness impacting on man's survival. As future citizens of the global world, learners are trained through schooling to think critically about political, social, economic and educational problems, in order to adjust and survive in whatever life situations they might find themselves in. A practical case in point is a topical global warming crisis threatening man's survival, as was highlighted in the Second National Climate Change Summit held in Midrand in South Africa (Sapa, 2009:3).

The researcher, having indicated the purpose and significance of a literature review, discusses, tackles challenges on English across the Geography curriculum, and teaching and learning practices in the classroom. The final product of teaching and learning underpinned by the administration of assessment tools is an expected good performance in the subject. However, Howell and Lazarus (2003:5) share a critical experience very consequential to the teaching and learning situation as follows:

“The most significant barrier to learning is [the] curriculum itself ... this includes: What is taught, the language/medium of instruction, how lessons are organised and managed, the methods and processes used in teaching, the pace of teaching, and [the] organisation of time, the learning materials, as well as most importantly, how learning is assessed” (Department of Education, 2001a:19).

The quotation is directly related to the question of the proficiency and efficiency of the teacher of the Geography curriculum in the Geography teaching and learning environment. The language (English) of learning and teaching of Geography is underpinned by other equally critical factors, like the difficult learning materials of learners, the impact of employment of traditional versus constructivist teaching and learning methods used in Geography classrooms, and subsequently

how assessments are carried out to gauge the learners' performance. Sibanyoni (2009:3) accentuates the view of Howell and Lazaros (2005:5) by sharing her teaching experience, with particular reference to English as a barrier to teaching and learning and how it interlaces with African languages. The researcher looks into each barrier claimed above by exploring broadly pertinent literature on the problem of barriers of Geography learning and teaching culminating in learner performance with specific reference to the districts in the spotlight.

The barriers claimed are:

- The absence of the teacher's proficiency in English as the medium of instruction for second-language learners in Geography teaching.
- The learning context.
- The level of English of the textbook as a barrier for the second-language learner in terms of the illegibility and incomprehensibility of the textbook.
- English per se is a barrier for the second-language learner; because the second-language learner does not command literacy in English.
- The incompetency of Geography learners in English is due to the teacher shielding their weakness by resorting to the use of vernacular languages, when teaching Geography; and this is also counterproductive.

### 2.3.1 Theories that frame the research study

The researcher is obliged to discuss educational theories advocated by Grosser and De Waal (2008:41-56); Cohen, Manion and Morrison (2007:137) and Killen (2003:8-9) that frame the research study. The purpose is to edify the significance of theories to an educational practitioner. Theory application is meant to improve practice. The research study has adopted the constructivist theoretical framework/approach in pursuit of the research problem. Bush (1995: 153) quotes Morgan (1986:335-336) who explains theory as follows:

“There is a close relationship between the way we think and the way we act ... in using metaphor to understand organisation we ... are simply encouraged to learn how to think about situations from different stand points. We are invited to do so more consciously and broadly ... our images or metaphors are theories or conceptual frameworks. Practice is never theory-free; for it is

always guided by an image of what one is trying to do. The real issue is whether or not we are aware of the theory-guiding notion.”

Our thoughts determine our actions. Our thoughts map out our action in learning situations. Any act learners execute is driven by learners’ conceptual frameworks. That is, learners form images by cognitive concepts that image to the learners’ imaginations. The learner transforms the images into practice. The learner puts into practice what s/he is aware of. The learner learns what is meaningful to her/him. That is, in the end of the teaching and learning process, the learner should realise and demonstrate cognitive development. The material facts require the explanatory framework of theory commanded by expert practitioners/teachers to ascertain their real value/meaning to the teaching-learning process in relevant contexts.

It is incumbent upon the researcher in the study to take cognisance of adopting various educational learning theories to guide the pursuit of the barriers to Geography practical teaching and learning. It is for this purpose that no single theory is sufficient to guide practice. The adopted constructivist approach to the study consists of varied models embraced and advocated by constructivist practitioners in specific curricula avenues. Bush (1995:153) terms it the specific-curricula conceptual parallelism appropriation in specific content. With specific reference to the study, the researcher was able to select pertinent approaches to barriers to Geography learning and teaching to attain good performance in the province. Put simply, it implies that by appropriating one theory in investigating the causative factors/militating factors against the attainment of good performance in Geography; this could lead to failing to reach the objective optimally.

The reason is obvious: Because each theory intends redressing its specific circumstance/action/event to the exclusion of others. The other theories are stated by their peculiar identified causes. Thereafter, practitioners in specific fields of operation are advanced to relate to theory and practice to acquire effectiveness and efficiency in their practice (Bush, 1995:154).

According to Montello and Sutton (2006:17), a theory is defined narrowly as follows:

“A theory is an idea or conjecture about a causal relationship in reality. It answers the question of ‘why’ something is the way it is by identifying its antecedent causes.”

The latter quotation is terse and to-the-point in relation to the study’s barriers under investigation. The study is intent to look into the causes of the barriers to Geography learning and teaching.

Turner-Bisset (2001:159) agrees with Bush (1995), and Montello and Sutton (2006:17), that symbolic relationship theory and practice operate together. The quotation in summary says that it is not feasible for teachers to be effective and efficient in the execution of their professional responsibilities – when their selected theories are incompatible with their practice.

Sawyer’s (ed.) (2006:38) work on the theory of constructivism accentuates Piagets’ theory that learners learn by constructing their own knowledge in their interactions in the world around their environment. The theoretical approach denounces the passive transmission of knowledge approach espoused by traditionalists, where a learner is aided by an adult (Sawyer, 2006:38). Sawyer (2006), advocates that learners understand the world in fundamentally different ways compared to adults. The constructivist theories highlight that in their approach, appropriation comes into being in the knowledge construction. The approach emphasises that the learners make knowledge their own; and they begin to identify with it (Sawyer, 2006:39).

Sawyer (2006:39) says knowledge construction is:

“The deliberate part of learning [which] consists of making connections between mental entities that already exist; new mentalities seem to come into existence in more subtle ways that escape conscious control ... this suggests a strategy to facilitate learning by improving the connectivity in the learning environment, by actions of culture, rather than individuals.”

The constructivists agree with the views above; and that learners exert effort to guide and monitor their own learning activities in the learning situation (Sawyer, 2006:258). This view reconciles with self-monitoring and with the metacognition/metacognitive learning process. Self-monitoring enables learners to engage in self-questioning, in order to define their own learning purpose, and redress identified failures affecting their own comprehension in learning. That is, self-monitoring learning enables the learner to learn selectively; since the learner must pay attention to the key content and shuffle away trivia; because it is the key knowledge that will optimise the learner's cognition and metacognition, in turn. Metacognitive learning enables the learner to be aware of learning problems and then s/he solves them by applying the metacognitive skills that s/he has acquired through learning.

Sawyer (2006:122) summarises Piaget (1954), who holds the notion that:

“Learning is an active constructive process ... learning is not a passive process of transferring information from expert to novice. Rather, learning is an active process; employing a “learning by a mindfully doing” approach, where learners must cognitively manipulate the material they are learning to create cognitive links from the new material to their own prior knowledge.”

The quotation above fits in with the mind-map principle that Dryden and Vos (2005:5) advocate; since it impacts on the effective and meaningful learning of a curricular learner in a particular Geographical learning situation. The research study finds handy Rudyard Kipling's (Dryden and Vos, 2005:192) six honest serving men that form the brain-tree function model in the learning process. These are: Who? What? Where? When? How? Why? The use of these educative serving wise men is applied in interlocking ways with the learner's prior knowledge to the conception of new material in class. Secondly, the employment of the six educative serving men makes it feasible for learners to recall the key points of information in the Geography/curriculum learning process for effecting knowledge construction.

The six serving wise men educate the learner of Geography: The wise serving men's When, How, Where, Who, What and Why are very critical for employment in Geography teaching and learning on many of the curriculum sections. The learner's significant mind-map could affect

cognitive image development by asking: What significance has this lesson for myself? Why should one have to take geography as a career path? How should a learner live and practise Geographical knowledge to sustain environmental awareness? Who is accountable for nature conservation awareness promotion and sustenance? (Makgoba, 2012:7). Where can the learner view different scenery; and, When/What is (it) the right time to do so? What impact does scenery viewing have on one's cognitive development as a citizen? The employment of the six serving men by the learner manifests reflective/experiential learning, which is what functional constructivist knowledge construction is all about. The learner will be demonstrating communicatively to the interlocutor what practically the learner conceives of the facts and the impression of the conceived facts on the environment.

The researcher conceives the expert teacher (Turner-Bisset, 2001:61) as critical and consequential in the teaching and learning of Geography. The expert teacher could minimise the existence of barriers to Geography learning and teaching in Limpopo. Expert teachers command the knowledge that learners are endowed with individual talents to be nurtured for development in creating opportunities for positive learning. Expert teachers of Geography embrace and value active and constructive learning as opportunities to be afforded to learners to develop optimally in their own time without hindrance/barriers. The learners acquire first-hand experience and understanding in contrast to being led by rote-learning which is a learning barrier that bedevils learners' performance in Geography in Limpopo (Turner-Bisset, 2001:64).

Turner-Bisset (2001:83-84) follows the paradigm of teaching, where teaching is considered to be "a knowledge-based profession". This view implies that the curriculum teacher or the teacher of Geography should command content competence; should interlace (match) with the command of extensive knowledge of learner's individual developmental challenges informed by learning theorists. The teacher's intensive knowledge of learners should interlock with the command of assessment expertise logistics/logical steps. The assessment process is underpinned by keeping groups of learners' records, regular tests, scoring and interpreting results.

In the teaching-learning process, learners should be observed very closely. The mission is to check learning challenges with the view to redress promptly, in order to optimise positive learning (Turner-Bisset, 2001:84). The expert content/Geography teacher should, as a matter of

convenience, hold talks with learners individually about their work. Administering the spoken learning activities reinforces measures to ascertain learners' understanding of the learning material. (Turner–Bisset, 2001:84).

### **2.3.2 Language challenges for the second-language learner in learning-teaching contexts**

#### **Challenges to language in education (in Geography classrooms)**

Govender (2010:4) and Hazelhurst (2010:6) attest that the language of learning and teaching (English) is a consequential core to geography teaching and learning in the classroom. Butt (2002:200) states that:

“Language provides the medium for learning Geography in every classroom and should therefore be a major consideration in the planning and preparation of lessons.”

This suggests to the reader that language (English) across the Geography curriculum is the most critical barrier to Geography learning and teaching. Radnor (2002:14) and Butt (2002:200) assert that teachers' proficiency and efficiency in the language of learning and teaching (LoLT) and the subject-specific curriculum are fundamental in the execution of teaching and learning activities. That is, the teacher's role in the execution of the whole process is to guide the form and function of language/English within the learning situation; as English impacts immensely on learners' learning (Butt 2002:201). The teacher of Geography directs learners' talking, writing, and reading in Geography learning.

For learners, talking in Geography is difficult because of the complex Geographical terminology. That is, in the Geography classroom, Geographical terminology is used predominantly (Butt, 2002:200-211). This creates barriers to learning; because it becomes very difficult for learners to understand the subject-specific concepts. Therefore, learning the concepts is critical for the attainment of Geographical literacy in learners.

Morgan and Lambert (2005:7) advocate that in meeting those teaching and learning challenges indicated above, the teacher of Geography should be tireless in seeking to understand the subject

maximally. It should be through engaging in continuous professional learning that good teachers are characterised. This suggests that the two scholars above advocate the raising of awareness to literacy approaches in learning Geography. The manifestation reiterated is that Geography links with English speaking-listening, writing skills, English and Geography learning both require subject-specific terminologies. The skills acquisition manifests in the promotion of explaining Geographical information vividly, as well as expressing persuasively learners' feelings and attitudes in learning the subject. The acquisition of reading skills in English and Geography involves the ability to scan texts to find relevant information – extracting the facts and deducing meaning from the materials (Morgan & Lambert, 2005:66).

Ayliff (2010:3) maintains that learning should take place “in a meaning focus-led environment, in which learners negotiate meaning when a gap in understanding occurs”. The bottom line is that the teacher should support the learners to grasp the learning activity through the mastery of language development.

Mkhize (2012:28) agrees with Macdonald (1990:4), who says that the pertinent factors underpinning the poor performance of learners in the subject of the Geography curriculum are:

“... the linguistic difficulties experienced by the children [Grade 12 learners], thinking styles, which might be culture-specific problems with content-subject textbooks, disparities between English learned as a subject and English as required across the curriculum, and finally, school-learning experiences.”

The quotation coined by the scholar was informed by observations made from the classroom investigation into the language (English) curriculum as a learning barrier to learners. The investigation was entitled: *Crossing the Threshold into Standard Three in Black Education* with special reference to Sepedi-speaking learners in the former Bophuthatswana known as North West Province today. The scholar highlighted learners' cognition and meta-cognition challenges in learning the learning material influenced by the subject teacher regarding proficiency in the language of learning and teaching (English) interlaced with curriculum proficiency. Over and

above the teachers' expertise, learning and teaching practices had a bearing on the performance of the learner in the classroom. The problem of performance involves both the learner and the teacher; the teacher initiates and facilitates the learning activities in the learning and teaching environment. The teacher is viewed as the architect and prime *mover* of learning activities. Effective teaching results in effective learning, and the self-actualisation of the learner. Therefore, if the teacher lacks proficiency in the LoLT and in the curriculum, as well as coverage, the learners who encounter the teacher effectively suffer. This is so because the difficult learning content cannot be simplified and supplemented to render it learner-friendly. Therefore, pupils' learning is undoubtedly set in motion by the teachers' ingenuity.

Van Rooyen (1990:3) carried out a subsequent study of Macdonald's investigation to verify the authenticity of the recommendations on findings in the respective study. Both Macdonald (1990) and Van Rooyen (1990) researched the barriers to learning and teaching curricula in the intermediate and senior phases in the now-defunct Bophuthatswana. The specific focus was on the inefficiencies of teachers in English as a vehicle of learning and teaching, subsequently bedevilling learners' performance/literacy attainment.

According to Carstens (2008:120), the issue of teacher's non-proficiency in the language of learning and the curriculum are cognitive underdevelopment, interlaced with dearth in specific curriculum terminology mastery. The cognitive and salient concepts of underdevelopment in curriculum-specific subjects (such as Geography) are, as a matter of fact, carried over into the late phases or Further Education and Training (FET); which is the specific band of investigation with particular emphasis on poor performance in grade 12 Geography in the different districts.

### **2.2.3 Geography-specific language challenges for the second-language learner in the teaching-learning context**

Plüddemann (2002:55) is one of the many curriculum scholars concerned about the dearth of discipline-specific knowledge of teachers in their respective curricula. According to Plüddemann, quoted in Taylor and Vinjevoid (1999:139), the view is that:

“With regard to discipline-specific knowledge, [there is] an alarming number of teachers, who have to teach science, in particular, [who] appear [to be] conceptually weak ... teachers’ low levels of conceptual knowledge, their poor grasp of their subjects, and the range of errors made in the content and concepts [becomes clear] in [the presentation of] their lessons” (Taylor & Vinjevoid, 1999:139).

Plüddemann (2002:55), in support of the above quote, asserts that many subject teachers command very little knowledge of their subjects. This scholar goes further to indicate that, in some cases, teachers are just not qualified to teach specific subjects – even though they end up teaching these subjects. The scenario profiled by Plüddemann (2002) seems to apply to the poor performance in the Limpopo Education Districts, with specific reference to the Grade 12 Geography pass rates from 2005-2009. Naidoo and Bloch (2008:45) and Bloch (2010:7) are of the view that many subject teachers lack competence in the subject knowledge, subsequently disempowering their learners.

Teachers of Geography, who are conceptually challenged, resort to teaching the subject in the mother tongue (MT), to facilitate learning, and for the learners to understand more easily. The attempt and practice makes matters worse; because the MT’s scientific corpus of Geography is seriously underdeveloped (Plüddemann, 2002:55; Veloso, 2002:80); Mkhize, 2010:28; Ramoupi (2011:34); Code-switching as a practice in the learning environment has consequences for learners’ development and performance. Mahlalela-Thusi and Heugh (2001:24) carried out their research project on a feasibility study of the use of the dual medium of IsiXhosa and English in the classroom in the Eastern Cape Province. It was found, amongst others, specific to this research study: “... that there is no or insufficient terminology in African languages” to use to supplement the difficult textbooks’ English, for second-language learners’ use in the classroom (De Klerk, 2002:1-3; Sibaya, 1999:74-77; Ramani & Joseph, 2002:333-420; Heugh, 2001:185).

Ralenala (1993:1) had this to say of the language (English) across the science curriculum:

“...For instance, in situations where a language is studied for [the] purpose of acquiring the content of a specific subject, certain adjustments in content and methodology of the

Target Language (TL) must be made to suit the content and discourse of that specific subject.”

According to Donald, Lazarus and Lolwana (2006:199), the core of the latter quotation is that the curriculum/content language should be learner-user-friendly and accessible by the subject teacher to facilitate the pupils’ learning. On the same score, Van Tonder (1999:90) advocated that subject teachers teaching learners from different languages and cultures should have a command of the learners’ respective languages, in order to benefit equitably all the learners entrusted to the teachers. According to Rodseth (2002:109), the textbook language should enable the second-language learners to access knowledge with ease, without facing concept barriers. These difficult textbooks written in English are compounded by the fact that subject teachers or teachers of Geography cannot supplement the difficult English for second-language learners.

The teachers’ failure to supplement the difficult textbook language is due to the fact that they are not proficient in the language of learning and teaching themselves.

Owing to the language non-proficiency, subject teachers of Geography cannot assist learners to construct information in the medium of learning; as Butt (2002:2001) and Morgan and Lambert (2005:766) have already stated above. Breidlid (2003:83) says that the curriculum-challenged teacher is tempted to shield her/his curriculum-conceptual weakness behind the MT by code-switching into it. The code-switching practice from the LoLT into the MT betrays learners; because learners’ home languages do not have the scientific terminology needed for answering the question papers in examinations. Consequently, learners fail to express themselves in English as the language of the curriculum; and as a result, the learners perform poorly in Geography.

Guppy and Hughes (1999:11) identify, for learners’ language development, three components of reading in English as the curriculum language of learning. In order for learners to learn effectively, they should command a mastery, or the ability to read the lines, reading between the lines, and reading beyond the lines of the content of the Geography curriculum. The expected acquired subject literacy ability would enable the learner to tap into information, in order to understand the reading material, be able to pick up the main points, enable the learner to criticise

the significant information, to construct knowledge and new ideas, to learn to grow in the learning situation (Skehan, (1999:246). Metcalfe and Games (2008:355) say that learners acquire knowledge to grow their cognition, in order to overcome their ignorance and dependence. The learners' cognitive growth makes them aware of their being alive in their situations.

On the question of textbook use, Graves and Murphy (2000:229) have this to say:

“There is no such thing as a perfect textbook. The teacher plays a primordial part in whatever book he has; it is for him to make his own selection from the material offered. He must use it, according to his conception of the lesson; and he must supplement it, as he thinks necessary.”

The quotation is pertinent to defining the hypothetical barriers to Geography learning and teaching in the Limpopo Province's Geography Grade 12 learners. It is incumbent on the teachers of Geography to acquire competence in the subject matter of Geography, in order to be able to supplement the prescribed textbooks intended for second-language learners. The informed teacher's level must be above that of the selected textbooks; and they must supplement its weaknesses to enable the dependent learner to grow cognitively. If a teacher cannot handle a textbook, then the learners becomes vulnerable to poor performance in Geography.

In principle, teachers are the agents of policy implementation in their respective governments. Graves and Murphy (2000:229) point out that this is a prime reason that:

“Textbooks are [a] reflection of the society that produced them [Textbooks mirror to a large degree] ... the nature of the education system in which they are embedded.”

Any education department must cherish the ideologies of the government; and the teachers must realise that they must drive the policies of the regime to maximal realisation. Therefore, it is incumbent upon the DoE to develop teachers to realise the vision and mission of educating the country's children.

### **2.3.4 Geography teachers' development to redress challenges in performance**

Shalem (2003:31) attests to the view held by Uline, Johnson Jr, Hoy, Paul and Stroot (Eds.) (2005:44-52), as quoted in Hirsb (2005:39):

“... We argue that if you create support structures for teachers, instruction in the school will inch upward because, even in the lowest-performing schools, you typically find a few teachers who are quite good. If you create a vehicle for them to help their colleagues you will see improvement over time.”

Teacher development is a cornerstone for the attainment of professional competence across the various curricula. Performing teachers across curriculum areas are dependent on collective teamwork in pursuit of the vision and mission attainment of the school and the entire department of education. In this regard, Bloch (2010:17) laments the poor foundations of literacy and numeracy on the part of the subject teachers, who ultimately fail their learners. Johnson and Uline (2005:45-49) call for teacher development at the school under the baton of school managers/leaders, and curriculum speciality at the district up to national level.

The preparation of teachers for respective leadership is geared towards the attainment and enhancement of quality and high standard education, whereby their communities would be changed for the better (Osman, 2011:7) The aim of enhancing quality educational leadership is underpinned by the need for the attainment of advocated specific standards, as the vision of learning, the culture of teaching and learning and the management of learning, among others. The vision and mission of effective educational leaders is to create learning environments in which the continuous focus is on ensuring that every learner in every group achieves success manifested in the mastery of literacy and numeracy.

The competent teacher would dispense Geography-specific knowledge to their learners, who would, in turn, be able to fend for themselves in their future career paths. The acquisition of school-based competence by learners opens opportunities for them in the economic, social, political and intellectual spheres.

Johnson *et al.* (2005:4) emphasise the philosophy that learning is a lifelong process:

“In successful schools, all educators continuously examine and utilise data to improve [their] teaching.”

From this point of view, one can deduce that every learner achieves optimally given learning opportunities, which correspond with individual abilities. Competent Geography teachers plan and prepare their lessons and specific assessments around the individual learner’s abilities and learning pace. The mindset of competent teachers is to realise the vision and mission of the curriculum, which culminates in the realisation of future career paths for each learner.

The attainment of the vision and mission statement of a school is driven by the existence of a culture of teaching and learning in the school. The implementation of effective strategies is driven by teachers’ zeal to sustain professional development manifested daily in the execution of teaching and learning. Teachers themselves are lifelong learners, who constantly seek to realise improved instructional effectiveness. The ingenuity of the leaders to pinpoint instructional challenges in Geography pass rates should ensure that these challenges are overcome and eradicated. Good results in the school are in accordance with the vision and mission statement of the school; and they are underpinned by expert learning management, where every teacher’s effort is geared towards every learner’s attainment of performance.

Johnson and Uline (2005:49) maintain that in order for every teacher and learner to perform maximally, all barriers to subject/Geography teaching and learning must be removed. It is therefore incumbent upon leaders to conscientise teachers to prioritise their practice programmes coupling them with the implementation of effective strategies to realise excellent performance across the curricula – without any weakest-link obstruction in the curriculum chain.

Seitisho (2002:139) subscribes to Cross (1995), who maintained that “a teacher must remain a student throughout her/his teaching career”, in order to enrich himself/herself in skills, approaches and the application of strategies to ensure efficiency in teaching their respective curriculum areas – in order to realise learners’ expectations in specific careers (Oosthuizen,

1988:51). According to Bloch (2009:11), the development of professional teachers is underpinned by the effective evaluation of all the curriculum areas offered by teachers geared to improve learners' performance (Bayat & Louw, 2011:27). Serrao (2009:6) says that teacher development, and support by circuit managers and curriculum advisors can perfect performance across the curriculum. He agrees with Jansen's (2009:6) call for quality education provisioning realisation through teacher development and support by inspectors into schools, interlaced with the provision of curriculum service on wholesale to perfect performance across the different curriculum areas. Cross (1995:34-38) emphasises the views held above that teachers' qualifications and professional competencies in a curriculum area enhance the quality of teaching and learning (Bell & Gilbert, 1996:10).

Van Rooyen (1990:7) sheds light on the use of difficult textbooks written in English for the second-language learners in African-rural schools across curricula and grades in the main stream in general. Among other impending significant factors impacting on second-language learners' learning is the legibility or complexity of the text underpinned by sentence lengths. The consequences of sentence length to the subject (Geography) textbook user are that the learners/users struggle with comprehension of the language (English) of learning. Subsequently, the English language affects the understanding of the learning content (Van Rooyen, 1990:17).

The learner fails to recognise meanings in the long sentences used in the text. This learner barrier, therefore, calls for the content (Geography) of teachers' ingenuity to supplement the difficult English, in order for the learner to comprehend the learning material. However, only continuously professionally developed teachers can redress the problem ably to enhance learners' effective performance in the respective subjects.

Van Rooyen's (1990:25) focus is on the vocabulary of textbooks in posing challenges to both the subject (Geography) teacher and the learner. The subject of Geography is supposed to be a prime initiator/mover in the teaching and learning activity in the learning environment. It is the teacher who must master the terminology / technical terms (words or phrases), which carry "single specific meanings" (Van Rooyen, 1990:25), when used in particular texts to be understood vividly by learners. The challenge of technical terms for learners is very critical – in the sense

that the investigation into barriers to Geography learning and teaching in secondary schools (FET) in the districts is a great concern. It is a serious concern; because Geography is a Geoscience that characteristically uses specific technical concepts and language, which challenges second-language learners in various learning contexts. Learners' problems will become more serious if the learner does not command the meaning of Geography-specific words (Van Rooyen, 1990:25).

The research study views the question of the comprehension of words used in textbooks to be very critical for the targeted group to use in the learning content. The accessibility of the learning material to the learner, therefore, lies squarely upon the shoulders of the teacher, who must be skilful in handling/manipulating and analysing the textbooks' difficulties – in order to simplify them for the challenged learners, so that they can learn with ease.

Van Rooyen (1990:105), in view of the existing experienced learning and teaching problems/challenges in subjects, emphasizes the following quote:

“Teachers should be trained to be aware of the special language needs of the content subjects the children will have to follow in later years, so that they can prepare the children to cope with the content subject language demands, which will be made on them” (Marland, 1978:93).

Bloch (2009:13) emphasises the view that many subject teachers have low morale and subject contact, which fails their learners to optimise at an expected level. Stoddard, Pinal, Latzke and Canadayir (2002:664-688) accentuate the quotation above. Their view is that the acquisition of the language of learning and teaching/English enhances the learning of science/Geography realisation; because the language acquisition integrates with Geography inquiry-acquisition skills (Stoddard et al., 2002:664). The scholars imply that proficiency in English is a prerequisite for learning Geography. The researchers acknowledge and lament that second-language (English) learners do not have to access to rigorous Geography curriculum instruction, or the opportunity to develop English second-language skills. The lack of access to instructional help in the content results in challenges for Geography learners to understand, conceptualise, symbolise, discuss,

criticise theories, or read and write competently about topics in English. A Geography-specific linguistic register is deemed essential to the practice of a science discipline. It is so because a science register uses technical language features that include skills for formulating hypotheses, formulating questions about phenomena, proposing alternative solutions, describing, classifying, using time-spatial relations, interpreting data, inferring from data, evaluating hypotheses through experimenting, predicting, observation and measurement, generalising and communicating findings or writing reports scientifically on projects or scientific phenomena.

These scientific explorative observations involve hands-on activities, which provide opportunities for language use/active thinking and discourse around activities (Stoddard et al., 2002:665,667).

Macdonald (1990:177) subscribes to the view held above by advising that:

“Textbook and writers should also take cognisance of the limited vocabulary the children possess, and use as many familiar words as possible in the text. It is important not to use obscure vocabulary unnecessarily”.

Lanhan (1981) acknowledged by Macdonald (1990), gives an example to concretise how the difficult vocabulary can impact on the understanding of the used content by the learners. Macdonald (1990:178-179), advances convincing scenarios, based on some authors’ written subject textbooks intended for use by second-language (English) learners: For example, he says, consider this sentence: “*Plants need wet ground, so that they can grow.* In this sentence, the meaning is not obscure to learners. *Plants need [the] water in wet ground, so that they can grow.* In this sentence, the meaning is obscure to the learners; and they cannot discern it with ease.

Clearly, where English makes liberal use of synonyms for the interest of reading, this practice would have to be held in check. A text, which is cohesive and coherent is more comprehensible than a text which is not (Macdonald, 1990:179). The authors must make sure that the referents for the cohesive elements are easily retrievable. Macdonald (1990:179) provides the following example to clarify the argument above:

- a) *Leaves make food for the plant. They can only make food if they are in the sunlight.*
- b) *How do chickens reproduce and what happens to make sure that as many eggs as possible hatch and grow into adults?*

The scholar simplifies for learners the complex and incomprehensible (b) sentence as follows:

*How do chickens reproduce?*

*How does the hen protect her eggs?*

*How does the hen protect her chicks?* (Macdonald, 1990:180)

The author has broken the long confusing sentence into three manageable, legible, comprehensible sentences for the second-language learners to follow with ease and arrive at the expected answers to the questions.

### **2.3.5 Learners construct knowledge through active learning**

According to Balderstone (2000:114-115) and Kelly (2011:2), learning is an enquiring process characterised by learners' active engagement in the learning content. Phye, Robinson and Levin (2010:68) attest that the learners' engagement in the learning material enables the learner to construct meaning from the content culminating in acquired knowledge. The acquisition of knowledge is effected by the application of acquired learning skills. The acquired learning skills enable the learner to identify learning problems, for which s/he generates answers to solve the problems in the learning situation (Duminy & Sohng, 1981:2).

Kruger and Adam (1998:154) view knowledge and meaning construction as meta-cognition. They define meta-cognition as follows:

“Meta-cognition involves an awareness of one's (learners') own thinking and being able actively to monitor and direct it.”

“Metacognition entails the learners' ability to do a learning activity, how to learn, construct [one's] own learning activity, and handle/tackle tasks in the learning process in the learning environment.”

Ashman and Conway (1997:41) say that: “Cognition has to do with knowing, and thinking critically of perceived information in the learning environment.” From cognition, there emanates meta-cognition, (Davis, 1993:180; Vrey, 1979:262).

Looking at the three quotations above, the researcher finds that Kolb (1996:31), Fraser (2001:2-3), Brown (1994:126) and Moreno (2010:298) advocate experiential learning to be practised in the teaching and learning classroom. The experiential learning approach emphasises the notion that individual learners learn differently. That dictates to the subject teacher to heed that every learner in the classroom should be granted opportunities, space and time to learn effectively and meaningfully without restraint, favour and prejudice. Each learner should be optimally engaged in verbal learning or thinking in the specific curriculum to construct knowledge, new ideas and theories independently, in order to grow holistically (Wisker, 2008:69).

Collinson (1996:82-88) attests that curriculum area teachers should develop their learners by dispensing the learning content appropriately, in order for them to develop optimally and individually.

The enquiry approach rejects passive learning and rote-learning. Rote learning, according to *The World Book of Encyclopaedia E Volume 6* (1994:90-95) is rejected; because it promotes the dependence of learning *on* the teacher – without learning independently *from* the teacher. Brown’s model (1994:126-127), attested by Kolb (1996), focuses on reflective/experiential teaching practice, which says that the subject teacher should plan, organize, initiate, monitor and assess the learner activities in the learning situation. The teacher should aim to develop in the learners the relevant learning abilities: listening speaking, reading and writing skills (Bears & Barone, 1998: 18, Skehan, 1999:246).

The acquisition of these abilities develops learners’ contextualisation ability. Contextualisation/conceptualisation is the ability that enables the learner to construct knowledge in a broader spectrum, and to communicate and share it with others meaningfully, pertinent to Geography curriculum learning and teaching in view of what Geography scholars, Welton and Mailan (1981:77) and Beets and Le Grange (2005:194) have to say about constructivism. They

view learners as thinkers and constructors of meaning and knowledge. They are supported by Brown (2000: 266-267) and Capel, Leask and Turner (1995:230), who assert that enquiring learners seek, probe, and process data from their learning environment. Davis and Davis (2000:85) and Davis and Reed, (2003:101,112) uphold the constructivist approach, which is pro-mental language development in learners for content interpretation and analysis purposes. Meta-language development is underpinned by the active language of the curriculum learning in English or the language of learning and teaching (LoLT).

*The World Book Encyclopaedia E Volume 6* (1994:90-95) advocates guided problem-solving skills development in learners, in order to solve problems themselves in mathematics, science and geography. Guided problem-solving class teaching and learning activity/process manifests, firstly, in how the teacher explains to the learners the general principle needed to tackle a particular problem. Secondly, the teacher demonstrates each problem-solving step on the chalkboard to the class. Thirdly, the teacher gives learners similar problems to try out. Fourthly, the teacher demonstrates again each initial step. Fifthly, the teacher presents to the learners some different problems to learn to work out on their own. Meanwhile, the teacher is monitoring the engagements or activities offering assistance to individuals who might need it. Sixthly, the guided problem-solving learning approach helps learners to solve problems that are not exactly similar to the ones the teacher provided solutions to in the classroom on the chalkboard beforehand.

Related to the approach, finally, the teacher employs a diagnostic, teaching method, whereby s/he presents problems to the learners to solve in whatever way they are capable of solving them.

After the learners have worked out the problems by themselves, the teacher commits them (the learners) to explain logically how they arrived at their answers. As they are explaining, they are executing meta-language skills (*The World Book Encyclopaedia E Volume 6*, 1994:90-95). According to Driscoll (1994:209), this theory is that of Brunner's (2000:230-234) cognitive development. The geography teacher does come into the picture for assessing whether the learners' answers are reasonable, or not, by showing them which steps they have got wrong in

solving the problems. The teacher finally explains how to correct the facts (*The World Book Encyclopaedia E Volume 6, 1994:90*).

Chaille (2008:4-5) adheres to the constructivist approach in the teaching and learning situation. This scholar says that the constructivist approach posits that learners construct knowledge through interaction between their own ideas and their experiences in the social and physical world. The scholar mentions the critical view that learners come to each experience with a rich background and ideas of their own. As they engage in interactions, they develop new theories and ideas of learning. Learners are driven by their intrinsic motivation to learn conversely, as opposed to the traditional practice of knowledge transmission/passive learning held by extrinsic motivational learning adherents/behaviourists, who are not in favour of active learning.

Chaille (2008:5) indicates that constructivists' classroom characteristics manifest in teachers honouring learners' ideas in learning, teachers granting time and space to learners to put into practice their own ideas, teachers encouraging and creating co-operative and experiential learning opportunities for their learners to learn effectively (Alexander, 2000:17).

The constructivist approach is viewed by Tierney, Readence and Dishner (1995:394-396) as enabling the learner in the learning situation to predict, organise, rehearse, practise and evaluate, in order to develop meta-cognitive skills. The significance of the acronym PORPE strategy is that it helps learners to read tasks with understanding; it enables learners to identify the important aspects of a message; it enables learners to focus on the major content versus trivia; it enables learners to monitor the occurrence of comprehension in on-going activities; it enables learners to engage in self-questioning to define the learning purpose; and finally PORPE assists learners to redress identified failures affecting their comprehension.

The PORPE strategy of Tierney et al. (1995:394-396) manifests as follows in the learners' application of their meta-cognitive skills.

- Prediction: Learners develop the potential to predict essay questions for assessment.
- Organise: Learners develop knowledge to organise key information to answer the predicted questions.

- Rehearsal: Learners rehearse key ideas in their memories for later use during examinations.
- Practice: Learners use their plan to sketch an outline of the answer to the question before writing actually begins. Learners must be able to rephrase the question at the opening sentence/statement, when answering the given question. The main points should be included in the answer.
- Evaluate: Learners must be able to evaluate their answers, in which it can be verified that the question was answered directly; the introductory sentence is question-specific; and they must be able to rephrase the question, give the major points made to cue the reader and the content must make sense. Learners use these abilities for application in their Geography-learning environment.

The abilities are individually profiled as follows:

- a) Translation: It is the ability whereby learners of Geography should put some communication skills into other forms. For example, interpreting a diagram, telling the meaning of a political cartoons' geographical orientation, stating intelligibly problems in their own words (Tienery et al., 1995:394-396). Possible question: *In your own words, describe what happens in Figure 2* (hypothetical). In responding to the question, the learners would demonstrate their cognitive and meta-language or meta-linguistic capacity, as attested by Kruger and Adams (1998:168), to communicate completely how s/he thinks and perceives the learning activity. Possible task: Identify at least six characteristics / indicators of commercial and subsistence farming.
- b) Synthesis: It is an ability to rearrange component ideas into a new whole; for example, plan a programme or a panel dimension, or write a comprehensive ten-page paper on a Geographical project run by learners. Possible task: Devise a plan that might avoid the negative consequences that result from the lack of environmental education/awareness in the residents of rural areas.
- c) Deliberating: In deliberating, the learners should be able to use resources on the past natural carrying-capacity level in comparison to the current state of affairs, resulting from human behavioural attitudes and the values of today.

- d) Interpretation: This has to do with the ability to record ideas; for example, gathering data from a variety of sources, when preparing an organised report. Possible question: What actually happened to x in Figure 2.3 (hypothetical)? In responding, the learner should shed light on what happened in the process of the shaping of a phenomenon developing to the level/stage where it currently is.
- e) Extrapolation: This is the ability to go beyond the given data. It has to do with what sort of extrapolations would the teachers and learners need to make from the facts. For example, the learners should be able to theorise about whether they will be able to draw conclusions from the given datasets/predict the trends. Possible question: What do you think happened to the vegetation after the discovery of gold on the Reef in the 1800s? Or, what happened to Platinum in the Lepelle and Tubatse areas in the 1900s to 2000s? Or, in the Mokopane areas in Waterberg Limpopo? Very vividly, the learners should be able to project their imaginations onto the activities of industrialisation impacting on the virginity of nature to the level of denudation visible now through the photographs reflecting the past.
- f) Application: It is an ability to apply principles to actual situations. It has to do with what sort of application the learners would need to make. For example, apply the principles of Geographical practices to current human activities in rural settlements. Possible question: By assessing a previous study of attitude that begets changes/what idea have we studied that explains the settlement after-effects to the environment's natural vegetation? Learners' argument should reflect a relation to extrapolation above manifesting her/his cognitive ability driven by language competence development/growth.
- g) Analysis: It is a capacity to distinguish and comprehend interrelationships; it makes critical analyses of facts or phenomena. That is, it has to do with what kind of analysis the learners would have to make; such as, for example, discuss how commercial farming differs from traditional farming; be able to detect logical dissimilarities influenced by political dimensions in the South African context. Possible task: Identify at least six characteristic indicators of commercial and subsistence farming.

- h) Evaluation: This comprises the ability to make judgements based on internal evidence or external criteria: for example, evaluate a work of art produced by your group on contours and the development of your field of study or detect inconsistencies in the speech of a politician on environmental issues in your area, etc. Possible question: Were the farmers right in doing what they did to the environment in question? (Welton & Mallan, 1981:186).

Balderstone (2000:114-115) says learners are by nature active constructors of meaning in their learning situation. The scholar advocates that teachers must create learning opportunities for learners, in which knowledge is actively constructed to optimise their learning. Geography-curriculum teachers must apply verbal learning and real understanding, guidance and discovery skills, thinking in Geography in their Geography learning, and employing effective Geography teaching techniques, like using oral lessons. Kruger and Adams (1998:165) and Gardner (1993:79) emphasise using textbooks and atlases. The employment of the techniques successfully is dependent on professional competence.

Balderstone (2000:114) goes on to indicate that curriculum development manifests in Geography teachers' ability to plan lessons and execute them, to use meticulously selected textbooks intended for learners' use. The skilful Geography teacher would be able to produce valid supplementary material to simplify difficult textbooks for second-language (English) learners to learn easily (Rodseth, 2002:109; Howell & Lazarus, 2003:5).

From what has been deliberated on, the research study is informed by that knowledge, and the knowledge of specifics should be dispensed to learners by knowledgeable Geographers, in order for these learners to optimise their learning. Learners should command knowledge of terminologies/technical terms, symbols, knowledge to interpret and analyse tables, for example, nature of Evolution, changes in altitudes, attitudes, etc. in Geography (Welton & Mallan, 1981:195-196). This should enable learners to reason out why things have shaped up the way they are in the area of existence. Therefore, this calls for the teachers to command knowledge of methodology, or of what sorts of methodology their learners would need to master, in order to be successful Geographers.

### **2.3.6 How can Geography curriculum teachers use textbooks better to benefit their learners?**

The researcher attempts to deliberate on how teachers can use textbooks better in the teaching and learning of Geography across the curriculum. The researcher's attempt is geared to redressing the problem of barriers to Geography learning and teaching, resulting in poor pass rates in grade 12 Geography examinations during the period under review in the district. Naish (1992:178) and Beets and Le Grange (2005:190-197) point out that it is up to the ingenuity of the teacher of Geography to realise that some textbooks are too difficult to be read by the learners for whom they are intended. This view is pertinent to second-language learners, whose linguistic ability is not commensurate with that of the textbook.

These scholars advocate that the teacher should be able to supplement or soften the difficult textbook to be user-friendly to the second-language/English learners; so that they can grow in the subject and as learners.

The textbook is viewed by Howell and Lazarus (2003:5) as the most difficult problem to the teacher and s/he should be able to meet it satisfactorily; because the teacher and the textbook should supplement and reinforce each other. However, the textbook should be subservient to the teacher and not a substitute for the teacher. The teacher, superseding the textbook, therefore, should manage the textbook to benefit the learners. However, the opposite seems to be happening, as demonstrated in poor performance in Geography in grade 12 in all the districts in the Limpopo province.

Leat (2002:109-111) is concerned with those teachers of Geography who do not live up to the challenges in Geography teaching. Their weak subject knowledge causes them to over-rely on the textbooks. They are ignorant of the unsuitability of textbooks in English in relation to the language level of the second-language learners. The scholar is further concerned with the teaching of Geography at secondary schools by non-specialists. As a result, the expectations of teachers' teaching Geography are lost; and the learners' future/career paths are, consequently, negatively affected.

Naidoo (2006:9) suggests an effective teaching approach for using difficult textbooks to benefit learners. The scholar suggests that where learners cannot use the textbook independently, the teacher should work with them on the text to ensure that the learners manage to identify the main ideas and concepts being presented. Teachers should develop through reading references and other literature related to geography, and by learning the content themselves. The advantage of reading widely on Geography literature is that it introduces teachers to new areas of Geography. It provides the potential for classroom adoption of new approaches to the management of teaching and learning. It provides classroom application techniques, as well as the quantitative techniques needed for explaining individual perceptions of different environments. They assist learners to interpret texts, which underpin the attainment of independent learning (Naish, 1995:189; Beets & Le Grange, 2005:194, *The World Book Encyclopaedia E*, 1994:90-95; Morgan & Neil, 2001:147).

Teachers should develop awareness that they are aides to the teaching and learning process. Therefore, curriculum teachers are obligated to work together to help learners to analyse textbooks critically. This practice would help learners to grow in the dimension of cognition, manifesting meta-cognition and conceptualisation (Kruger & Adams, 1998:165-168). This view underpins the fact that the teacher should interpret the textbook to benefit each learner. Mothata, Van Niekerk and Mays (2003:81-99) emphasise the fact that subject textbooks are very critical tools for the teacher and the learner. There are factors that must be borne in mind by the subject teacher, when textbooks are selected or chosen for the learners to use.

According to Bloch (2009:11), developed teachers, specifically in their curriculum areas, become effective in evaluating respective curriculum areas, in order to improve learner performance and learning attainment (Naish, 1992:189; Beets & Le Grange, 2005:194; *The World Encyclopaedia E*, 1994:90-95).

The question of the user-friendliness of the language (English) of the textbook must be critically examined because the textbooks' language must suit the linguistic level of the second-language learner – in order to construct meaning and knowledge – and to grow in the subject. Therefore, the subject teacher must be able to interpret the textbook thoroughly, bearing in mind the type

and level of the curriculum language. The learners must have the use of the textbook. Where there are language difficulties, the subject teacher must be able to supplement the book to be used by her/his learners, in order to optimise cognitive development.

This would invariably benefit the learners; because learners learn differently, in accordance with their learning styles, underpinned by their inherited intelligence. It is incumbent upon the curriculum-area teacher to provide for learners' intelligence by applying varied teaching approaches/strategies to effect quality learning in the learners. Beets (2007:578-589) says quality teaching ensures/begets quality learning; quality teaching begets quality assessment, which similarly produces good learner performance. Quality teaching and learning are required for learners to develop the capacity to construct knowledge, rather than merely reproducing information.

Other indispensable learning skills are the application of knowledge to obtaining life situations. Developed learners manifest acquired knowledge through constructivism, by demonstrating self and peer assessment in experiential learning. The manifestation of the learning skills ensures learners self-sufficiency in their future career path, which is the core business of the DoE.

The researcher considers the views of Tshibalo and Schulze (2000:230-234) very pertinent to the problem of barriers to Geography learning and teaching in grade 12 in the districts under study. The assertion is on the grounds that if the university students experience such serious learning challenges in map learning, the root cause of the students' problem emanates from poor background teaching in secondary schools, where these students learned Geography. The students' poor performance is indicative of the teachers' inefficiency in teaching geographical literacy to learners.

These scholars, Tshibalo and Schulze (2000:230), advocate teaching and learning activities in map-work to improve learner/student achievement. Active map-work learning goes hand-in-hand with co-operative learning methods, which are very useful (Brufee, 1999:8).

Väyrynen (2003:39) agrees with the view of Tshibalo and Schulze (2000:230) that learners construct knowledge through engagement in learning activities facilitated by subject teachers / teachers of Geography. The method uses small groups of learners who are easily manageable for the teachers to facilitate the learning activities. The significance of the co-operative learning approach is that learners can learn from each other. The learners interact through talking, discussing what they know, sharing their challenges with each other. Also successful learners in the small groups help to motivate other group members to be successful in their learning. It is of importance with co-operative learning that learner-centeredness or constructivist practice is enhanced.

Constructivist theory manifests in learners' capacity to construct meaning and knowledge; as they are acquiring experiences in the learning content (Balderstone, 2000:114-115).

### **2.3.7 Map-work teaching and learning: Quantitative literary challenges**

Kent and Smith (eds.) (2002:128-130) advocate the employment of fieldwork in Geography teaching and learning, in order to enable the learners of Geography to grow their understanding of Geographical scientific investigation to ensure the attainment and sustenance of their career paths. Learner involvement in fieldwork would expose them to practical Geographical situations to discern information through the application of their conceptual skills. The first-hand information and knowledge would enable learners to answer, and interpret the data analytically in examinations (Tierney et al., 1995:394-396).

Jacobsen, Eggen and Kauchak (1993:40-45) say teaching and learning Geography content results in the learners' acquisition of cognitive skills. The scholars describe content as the concepts of the cognitive domain. They call these concepts, abstractions, which are the ideas people use to describe, understand and simplify the world around them. They are the mental templates we use to perceive and understand our immediate surroundings/worlds. The abstractions form an important part of the linguistic development level of the learner, whereby the learner can construct new ideas, thoughts and theories of facts in learning, and the exploration in life situations. The scholars are succinct that concepts are interconnected with abstractions; in that concepts are ideas that refer to a class or category of facts.

Concepts are interconnected with abstractions. A practical example of a class or category is a noun or adverb and an adjective. The concept of animals comprises birds, mammals and reptiles. The animals are seen in the conceptual hierarchy. Once animals are referred into in a category, the knowledgeable learner would be able to visualise the concept of ‘animals’.

The same applies to generalisations, as a relational concept in learning for practical purposes. In life-orientation, learners are taught about smoking as one of the causes of cancer of the throat, lungs etc. The learners realise automatically in their cognition that smoking has a real chance of causing cancer. Therefore, abstractions have a value in language learning; in the sense that instead of using large amounts of information in a statement, the learner uses abstractions in summary function to describe amounts of information. In illustrating this point, the researcher cites an example of temperature highs and lows forecast by the weather bureau in a region. One area or town/city in a region represents the whole region, as opposed to plotting/charting every town’s temperature. The knowledgeable reader will still know that the representative information overlaps through the whole area/region.

In summary, the researcher would term meta-linguistic learning as the process of the whole learner’s growth in language. This growth through language is a feature of the personal linguistic growth model. The learner’s growth in linguistic acquisition is manifested in applying the acquired language pertinent to social interactions. The researcher asserts that the learner’s linguistic growth is promoted by listening, speaking, reading and writing.

Butt (2002:16-17) says that maps and photographs are critical to learners in the learning of Geography. Maps and photographs pose perceptual and conceptual problems for learners; because they are complicated in nature, demanding artistic, appreciative, observational, interpretative analytical or quantitative skills, or applications, in order to construct and deduce meaning from them. Therefore, map-work needs to be handled by masterful and skilled teachers, in order to benefit the learners, and enable them to grow their knowledge to understand and comprehend Geographical features and phenomena, and how they impact on those natural resources on which man is dependent on for survival.

Learners' growth in knowledge acquisition is essential for their preparation for career paths. The functions of maps and photographs are varied; maps and photographs function in finding the location of places or as a way of getting to a place. Scale street maps, for example, A-Z or geographical town maps, that is, route maps showing the distance between towns, survey maps for geographers' careers; and such maps function to store and display information. There are specialised functions of maps. There are thematic maps compiled for specific purposes, for example, television, newspaper, weather, maps and planning maps.

Land use maps, for example, for urban and rural areas, function to inform learners to locate settlements and commercial activities like farming, transportation, etc. Maps provide information in the form of words, numbers and symbols. The learners deduce or construct meaning from numbers and symbols by using words in interpreting and analysing the given abstractions. The researcher uses tasks based on Figure 2.2 and Figure 2.3 to demonstrate how maps can bear vital information to be observed, labelled, interpreted, manipulated mathematically, analysed and deduced from, to provide answers to administered/posed questions on phenomena, features and activities. The prime purpose of using maps is to acquire language competence.

Viewing the figures above, the researcher detects a sense of pessimism evoked by the view held by Leat (2002:109-111) on the teaching of geography at secondary schools by non-specialists. Tshibalo and Schulze (2000:230-234) and Wilmot (2003:313-318) support Leat that the teachers of geography need to be qualified in geography teaching; or they would fail to attain the DoE's vision and mission to realise self-sufficient citizenry. According to Serrao in *The Star* (2010:6),

“Poor literacy and numeracy levels in our schools are well-documented; but the scary part is that many teachers cannot pass the tests they set for their own pupils.”

The depicted scenario above is ghastly to contemplate, and diabolic to quality teaching and learning realisation in Geography in the districts of the Limpopo Province. Serrao (2010:6) agrees with Bloch (2009:61), when he refers to the five main causes of the crisis facing education as: “teachers, departmental support, poverty, the model C system and language”. Bloch (2010:12) re-emphasises the fact that teacher's inefficiency and ineffectiveness emanates from their poor training.

Challenges in map-work faced by teachers of geography emanate from their dearth in quantitative literacy. The researcher's assertion is based on the fact that the geography curriculum, according to Beets (2007:578) is an integrative applied science subject qualified to be taught to learners by a quantitatively literate teacher (Van Driel, Reijaard & Verloop, 2001: 137-140). It implies, therefore, that if a teacher is not mathematically literate, the results would be disastrous. This suggests that non-specialist teachers of Geography would skip mathematically challenging themes in favour of user-friendly sections, at the expense of the future of the vulnerable learners. Steyn and Maree (2003:47-56) reflect on the question of quantitative literacy.

The study was carried out targeting fresh engineering and science students at the University of Pretoria. The research study views the article as being significant to the barriers to Geography learning and teaching; because the University of Pretoria investigation focused on the question of the conceptualisation of mathematical content. The study focused specifically on "*individual diverse thinking preferences*" underpinned by learner's content competencies (Steyn & Maree, 2003:48). Students' thinking preferences, according to Steyn and Maree (2003:48-49) and Howie (2005:175-178) manifests as follows: There are four quadrant categories of learners' learning capabilities symbolised as: A-quadrant (bestowed learners), B-quadrant (organized learners), C-quadrant (preference learners) and D-quadrant (characteristics learners).

The four diversified quadrants enable the respective learners to conceptualise and operationalize the learning content cognitively and meta-cognitively differently in the learning situation (Kruger and Adam, 1998:154). The learner in A-quadrant is capable of critically and logically analysing the learning content in the learning activity; a learner in B-quadrant displays organised, planned and detailed information deduced from the learning material and involving the application of superior meta-cognitive skills. The C-quadrant preferences indicate interpersonal skills command by the learner of the learned content. The quadrant manifests in personal growth to harmonise human and physical relations in learning. Co-operative learning in Geography map-work demonstrates practically how interpersonal perceptual and conceptual abilities are manifested; because Geography learning involves more peculiar concepts than any other subjects, except for mathematics (Steyn & Maree, 2003:49).

The researcher deduces from the inputs by the scholars that learners learn effectively where the learning tasks and activities are varied. The view is advocated in Sternberg's model (2001, 22:26), Fraser (2001,1-4) and Fontana (1995:82) that learners fall into varied intelligence categories. There are those who fall under the visual category, comprising theories; and there are those who are aurally inclined. There are those learners who are practically pragmatic in functioning/learning. The view expressed is that for all learners to learn maximally, teachers should put into use all means available to them (learners); since a particular teaching method of the textbook would not necessarily suit, cater for and meet the needs of all the learners during a class activity.

The use of many terminologies in Geography calls for a proficient curriculum teacher, who can manage, handle and dispense to learners the learning content in the learning context. Steyn and Maree (2003:48-49) imply that conceptual structural development in learners is very critical in Geography. Subject teachers should help learners to engage with constructing new ideas to succeed in meaningful learning. Therefore, the optimisation of the A-quadrant, B-quadrant, C-quadrant and D-quadrant in the four learner-categories grants equal opportunities for learners to grow in their respective career paths, subsequent to effective and efficient teaching and learning (Steyn & Maree, 2003:49).

The teacher remains the prime provider of optimal learning for learners – by providing them with indispensable learning skills to graduate into self-sufficient citizens.

According to Bloch (2011:10), the question of quantitative illiteracy interlaced with the language of learning and teaching (LoLT) illiteracy is a worrying factor in South African educational institutions. In the same vein, Howie (2005:115-186) conducted an edifying research by evaluating learners' performance with a special focus on the curriculum language (English) related to second-language learners in mathematics achievement in grade 8 (Nkomo 2011;15). Howie (2005:176) is succinct about the problem:

“The aim of the study was to describe, [and] explore [the] main factors affecting the performance of the South African pupils in the mathematics test of, the third international mathematics and science study-report (TIMMS-R).”

Govender (2010:4) puts it starkly that grades 8 and 9 are rock foundations to good results in grades 11/12, on which practitioners should focus. Surty (2011:100) attests to the view in conceding to the dismal results of Annual National Assessment, which spelt disastrous results in grade 12 if left unnoticed. Rice (2010:13) advocates primary school teacher training enhancement on language and maths to redress the problem. Bell (2011:18), Metcalfe (2011:5) and Howie (2005:177) say that the study had two objectives to attain. The first objective alluded to above was to be informed of the pupils’ performance in the mathematics test, the pupils’ proficiency in English as the language of the curriculum for second language learners, and to describe the background characteristics of learners, and to apply the third international mathematics and science study-report (TIMMS-R) to teachers to verify the extent of effective mathematics teaching. The second objective was to:

“...Explore the factors... relating to pupils’ performance and to language proficiency in relation to the background information that was collected from the pupils to teachers and [the] principals of the schools included in the study.”

The two quotations are pertinent to the researcher’s study investigating barriers to Geography learning and teaching. The researcher asserts in the research study that the suspected factors, which are contributing to poor performance in Geography are similar to those advanced by Howie (2005:175-186) in the quotations above. They are stated as the question of the teacher’s proficiency in English as the language of the curriculum and curriculum subject; the teacher’s efficiency in Geography with a specific function to handle, and manage to supplement difficult textbooks’ in English with ease for the second-language learners to use the content easily, the latter coupled with the teacher’s ability to select and use appropriately geography textbooks; and finally, the geography teacher’s tendency to code-switch from English into the mother tongue (MT), when the teacher has run out of ideas to explain to the learners the learning content in English – because of the teachers’ lack of command of the subject matter and its terminologies

(Plüddemann, 2002:55). Howie's study was accentuated by Mtshali's analysis of the 2011 annual national assessments in terms of the staff of numeracy and literacy in South Africa (Mtshali, 2012:8). They were attested by Jansen's (2011:102-103) opinion on all national and regional tests of comparison on the basic competencies of literacy and numeracy/mathematics, as it was demonstrated in the third international mathematics and science study – report (TIMMS-R) (Howie, 2005:175-186).

Howie's (2005:175-186) key findings in the study are as follows: The language of the curriculum (English) was found to be a critical and significant factor for learners across the medium of instruction and the racial divide. That is, the impact of English literacy/competency was noticeable in the learners' performance between English speakers whose scores were higher than those of the African-languages speakers – whose scores were lower in the third international mathematics and science study – report (TIMMS-R). Of remarkable significance, following the English-language - first language (FL) speakers were the Afrikaans-speakers, whose performance too was reported as significantly higher than the African learners' scores. The language of the curriculum factor is at interplay here. The Afrikaans learners took the third international mathematics and science study – report (TIMMS-R) test in their home language, like the English speakers, a language in which they can communicate. This left the African language groups vulnerable to underperformance, due to their illiteracy in English as the medium of instruction (Mahlalela-Thusi & Heugh, 2002:241).

The skewed graphs of performance were attributed to the factor of curriculum teachers' proficiency in English in dealing with the content learning challenges of the second-language users in learning the content. Hence, Vithal (2011:3) questioned the wisdom of administering maths tests in English to African learners, as to native-language speakers/English speakers. Howie (2005:178) claims that the African learners dipped in their performance because they:

“... have trouble with the interpretation of tables, figures and illustrations. They struggled with questions requiring more than one step and appeared unable to articulate their answers in writing English. When faced with multiple-choice questions, the pupils resorted to guessing the answer ... pupils could not communicate their answers in the

language of the test; and they lacked the basic mathematics knowledge expected at the grade 8 level.”

From the quotation above, the researcher can deduce that the home-language conceptualisation factor is believed to have had an influence on the mathematics overall results; since the African-language speakers scored 100 points less than the other groups: English- and Afrikaans-speakers, respectively. The African-language speakers did poorly in the English competency test. The overall score in English by the African learners was 17 out of 40, which is well below par (Enslin-Payne, 2010:1; Hazelhurst, 2011:16). In response to the dismal performance of African learners in the third international mathematics and science study – report (TIMMS-R), Ntlakana (2011:13) strongly advocated the development of African languages in terms of their terminologies in specific subjects, in order to redress their poor performance. Ntlakana’s view is similar to De Klerk’s findings from practical experience in Grahamstown (De Klerk, 2002:1-3).

The investigation into barriers to Geography learning and teaching in grade 12 in the districts is informed by Howie’s (2005:175-186) findings on the impact that English competence (and incompetence) has on learners’ performance in the subjects related to Geography. Howie (2005:180) goes on to shed light on curriculum performance by sketching a further scenario with particular reference to performing and underperforming provinces, regarding the language proficiency of the learners:

“The average score is very poor in terms of the pupils’ language proficiency. Pupils from the wealthiest and most urbanised provinces, Gauteng (20, 86) and the Western Cape (21, 96), attained the highest overall scores. Pupils from the poorest province, Limpopo, displayed a very low proficiency in English (on average 13.8) pupils from the African-language group clearly struggled with the test; and the lowest average scores reflect that. The other second-language groups (Afrikaans and other languages) performed relatively well in comparison with the English group.”

The researcher reiterates that the pursuit to investigate poor performance of grade 12 in Geography in the Education Districts in Limpopo is justifiable; since all the factors militating

against good performance come to the fore in Howie's research: Learners performed badly in the third international mathematics and science study – report (TIMMS-R) because of their poor English command; since they are not native speakers of English; and they had a poor basic knowledge of mathematics. The learners' poor performance in English as a subject and medium of instruction and the learners' poor performance in mathematics is indicative of the fact that subject teachers in Limpopo, particularly African-language speaking teachers, are inefficient across the school curricula (Plüddemann, 2007:55, Delonno, 2010:2).

The teachers' poor performance in subjects like mathematics, applied science (Geography) does not augur well for learner development across the curriculum divide. The assertion held by the researcher is that efficient teachers of mathematics are desperately needed in schools to handle the quantitative Geographical sections. For example, map-work consists of mathematical areas by nature, which ordinary teachers of Geography cannot handle without the assistance of the teacher of mathematics at the school (Figures 22 & 23, 2.4.5).

### **2.3.8 Administering assessment in Geography teaching and learning**

Kent and Smith (eds.) (2002:15) advocate fieldwork practice, improving the quality of thinking in the Geography classroom, and improving oral communication and written tasks administered to learners. David, in Smith (Ed.) (2002:15) says that scientific investigation must be embarked upon because of its usefulness for increasing conceptual understanding and personal experience in learners of Geography.

### **2.2.9 Reflecting on pass rates in grade 12 Geography in Limpopo DoE during 1999-2009**

Needless to say, the core function of the DoE is to realise the vision and mission of the government, which is measured in terms of producing literate and numerate citizens, who can fend for themselves in all the respective spheres of life. The realisation of the vision and mission of the DoE should be in line with South Africa's Constitution (1996:814-829), which is to improve the life of all citizens and actualise the potential of each person. The responsibility of equipping learners with literacy, numeracy and scientific ability lies squarely on the shoulders of the teachers – to develop learners optimally – In the learning and teaching situation.

However, Bloch (2009:17) paints a bleak picture of the underachievement of South African learners in literacy, numeracy and science ability tests in comparison with the rest of the world. Particular reference is to better the achievement of the Southern African region (Bloch, 2009:17). The researcher uses Bloch's findings to emphasise Howie's (2005:175-186) findings, which are concerned with learners' lack of literacy, numeracy and scientific abilities. The researcher views Howie's (2005:175-186) findings and Bloch's findings very seriously regarding the third international mathematics and science study – report (TIMSS-R), with specific reference to Bloch's (2009:60) stark question: “Is schooling achieving what it is supposed to?”

Having directed this question to the reader, Bloch laments the performance of the South African educational system by indicating that South Africa is on record for being the worst performer in maths and language (English) literacy in the world, particularly with regard to African-language speakers. Bloch's posed question is pertinent to this research study; since Geography is an applied science in its own right, underpinned by the need for literacy in its dispensation and acquisition in terms of numeracy/quantitative exploration and manipulation (Sapa, 2008:12). Secondly, being a quantitative/numerate and qualitative subject, Geography's performance is bedevilled by underachievement, as evidenced in the test scores at various levels (Bloch, 2009:60-61). This is illustrated, furthermore, in response to the stark challenges by Bloch above, that the South African schooling is undoubtedly not achieving what it is supposed to achieve.

Therefore, it is implied that it will be a difficult task for teachers of Geography to produce qualified Geographers in view of the mirrored educational circumstances in which learners are learning.

The assertion is borne in the research evidence that South African learners happen to find themselves languishing in a learning and teaching situation, which is poorly managed and staffed by unqualified and under-qualified under-performing teachers across the specified curriculum areas. It is evidenced in Bloch (2009:62), according to the *Third International mathematics and science study analysis* published in 2003, where South Africa fared the worst out of 46 countries surveyed for maths results.

The national barometer of performance in the South African educational context is benchmarked by the Western Cape Province – which is regarded as the best-performing province in the country (Bloch, 2009:63). The results of the Western Cape Province regarding Grade 6 Learner Assessment Study in maths in 2004 yielded regrettable results; where 35% performance was registered for white schools, and 4% for Africans! The performance contrast between the two racial groups is incompatible. Therefore, the picture does not augur well for the country in the eyes of the international world. This is confirmed by Howie (2005:175-186). Bloch (2009:63) describes the 1999 monitoring Learning Achievement (MLA) study designed by the United Nations Educational Scientific and Cultural Organisation (UNESCO) and the United Nations Children’s Fund (UNICEF) of Grade 4 learners in South Tunisia, Mauritius, Mali, Niger, Zambia, Uganda and Botswana.

South Africa performed dismally – with a score of 30% versus Tunisia with 60%, Mauritius with 59%, to mention a few maths-pass rates. The same happened with literacy tests, in which South Africa scored 48% versus Tunisia’s 78% and Mauritius’ 61%. Ramphele (2011:4) is concerned that the citizenry is rendered vulnerable to self-sufficiency attainment, and that they are at the mercy of their self-sufficient African counterparts in terms of competing for job opportunities.

The gist of the matter is that in various tests, South Africa scored below par perennially in literacy, numeracy and science in general at various levels (Bloch, 2009:63-64). The depicted picture of underperformance above implies that our worst performance in these must-subjects dooms our learners’ future; as they are essential for learners’ future foundation. Bloch (2009:66) emphasises the opinion of Nick Taylor (2006) that maths passes are performance-indicators of school/DoE efficiency across related curricula, in which this scholar indicates that 79% of high schools in the country fell into the poorly performing category. A stark performance contrast shown by Taylor (2006) and Bloch (2009:66) is that, generally, African matriculants have a 0.1% A-aggregate pass.

Johnson, Bornman and Alant (2010:34-36) and Cremer (2011:9) advise parents to lay a strong educational foundation for their children at home to enhance their literacy and maths performance in the future, in order to circumvent the disaster alluded to. Tabane (2010:12)

decries the lack of literacy and numeracy foundation at the school level, resulting in poor performance in learners. Mtshali, Smillie and Sapa (2011:1) maintain the stance that many learners in South African schools lack the proper foundations, leaving learners educationally vulnerable. The demonstrated evidence above impels the researcher to delve into the grade 12 Geography pass rates from 2005 to 2009 in the Limpopo province by virtue of the status of Geography as a natural science. That is, the weakness of teachers in maths and science abilities dovetailed by their linguistic non-proficiency/LoLT incompetence compromises learners' performance in Geography. Figure 2.4 profiles the poor performance of learners in Geography through the period under the spotlight. This is underpinned by a toxic mix of related factors, as argued by Bloch (2009:88-98). He singles out the teacher factor as being highly contributory, and manifesting in the lack of reading literacy and numeracy abilities (Bloch, 2009:102).

Bloch (2009:102) laments that the deficit manifests in learners in all the phases in the system. Bloch (2009:102) puts it categorically that the compromise lies in "*a lack of the core abilities to teach, even when the will is there*". Suffice it to say that teachers are the captains of the education ship; and if they are failing to drive and navigate this ship, it cannot brave the violent and deep waters of the educational sea. Therefore, doom to all on board. Consequently, the myriad of factors argued by Bloch (2009:88-106) are summed up under 2.4.4 by Johnson and Uline's (2005:45-49) advocacy of standards and the need to realise the vision and mission of the school, driven by effective and efficient leaders and implementers of curricula.

In realising teachers' effectiveness and efficiency, leaders are expected, according to Bloch (2009:134-135), to organise for teachers to attend cluster meetings, workshops and specialised specific curricula workshops for training teachers to acquire all the assessment requirements to perform optimally. This can be realised by outsourcing subject-specific expertise from local universities to train teachers in specific curriculum areas (Garden, 2011:9).

Bloch (2009:90-91) maintains that the inadequacies in the three levels of education hold back performance, as identified below: "A range of issues affect teachers, from poor subject knowledge and teaching practice, to insufficient numbers in training and little performance evaluation."

What is contained in the quotation? Is it that all teachers' inadequacies in subjects they are offering affects the learners with specific reference to barriers to Geography learning and teaching in the Limpopo Province?

### **2.3.10 Development of critical-thinking learners in Geography**

Attesting to what Bloch (2009:151) says above, this research espouses Incekara (2011:236) and Makina's (2010:24) theory of critical-thinking development by specific curriculum teachers of mathematics. The researcher adopts the theory for mathematical literacy teaching and learning in Geography focusing on grade 12 learners. The research study's purpose with the latter learners is to attain visual perception skills to enable learners to interpret and analyse geographical phenomena (Butt, 2002:16-17). This attainment would enrich learners' relational attitudes and values in their geographical content to ensure and sustain their mutual survival. Learners' critical-thinking development would close the gap created by the casual teaching of Geography to learners, compromising the fact that geography is a science subject underpinned by quantitative literacy skills in learners.

The researcher attests to Makina's (2010:24-25) advocacy of visualisation / imagery development in learners by teachers teaching mathematical / quantitative literacy in context (Jordaan, Jordaan & Nieuwoudt, 1975:315).

The researcher also acknowledges Johnston's (1996:3-4) theory that learners learn effectively by forming images of the learned content to acquire the perceived information and to form meaning. This means that learners learn through concretising facts / images versus learning in abstract form. According to Makina (2010:26), the attainment of critical thinking is highly desirable for learners' independent thinking needed for self-sufficiency and for fending for themselves in life. Critical thinking in learners manifests in the acquisition of identifying, constructing, evaluating contentions, synthesising mistakes in content learning in context, solving problems systematically and practically, seeing relevance in content related to context and selective communication pertinent to learning content skills.

The acquisition of the highlighted skills / abilities is earmarked for mathematical / quantitative literacy mastery in Geography as a science to produce scientifically literate learners / Geographers.

### **2.3.11 Expert teachers in relation to barriers to curriculum knowledge**

Turner-Bisset's (2001:159) "knowledge-based profession" paradigm of teaching embraces concepts, facts, processes, skills, beliefs, attitudes and values. The Turner-Bisset paradigm of teaching emphasises the fact that knowledge is dynamic. Saying that knowledge is in a state of flux means that the knowledge of teaching is subject to impartial regular and vigorous change. This is witnessed by the fact that curriculum knowledge is revised from time to time and underpinned by teacher training to keep teachers abreast of any new approaches and strategies in keeping with any new educational challenges. Geography curriculum teachers are no exception.

Turner-Bisset's (2001:147) theory of knowledge-based profession advocates that expert teachers of subjects (Geography) should manifest two dimensions of curriculum knowledge. The first dimension is the command of knowledge of the current national curriculum by teacher's specific-curriculum. This dimension has a specific reference to the stated barriers to geography learning and teaching in grade 12 in Limpopo with particular reference to the 1999 – 2010 examination results presented in Table 2.1. The command of literacy and numeracy strategies or the absence thereof (Turner-Bisset, 2001:147) impacts on the effectiveness of Geography teaching across the prescribed sections of the syllabus.

Tackling teaching programmes with effectiveness would enable teachers of Geography to examine all curriculum/Geography materials. The dearth of expertise in Geography causes a barrier in the selection of teaching ideas and activities that eventually work counter-productively (Turner-Bisset, 2001:148). Effective assessment practice is underpinned by the teacher's command of deep subject knowledge that would ensure the critical assessment of curriculum materials. The command of deep-subject knowledge would enable the content teacher to judge the appropriateness of optimal learning. The teachers' expertise in the content affects the teaching of concepts, skills and processes.

The acquisition of this teaching power would enable the teacher to avoid providing corrupted images of the subject/Geography.

The second dimension of curriculum knowledge focuses on the command of differentiated subjects. The teacher's command of integrated subjects is of critical importance for the development and understanding of the whole curriculum. It explains how curriculum areas relate to each other. The teacher, who commands the necessary knowledge of the integrated subjects masters the key concepts, skills and processes of each subject critical for learners' logistic growth. The mastery of integrated subjects across grade curricula enables the classroom teacher to identify individual learners' talents across curricula links. The diagnostic teacher can guide learners relevantly into different careers.

For the purposes of the research study, learners of Geography can be directed permanently in respect of geography-based careers for their professional growth.

According to Ho (2010:20) and Cavanagh (2007:13), Geography is the one of the Geosciences that is concerned about the earth, which is a fully integrated system of related sciences. The concerned sciences are biology, agriculture, and others, which are sometimes taught in isolation. An informed teacher of Geography can align her/his teaching with the many opportunities in the Geography curriculum by teaching it across disciplinary approaches. The approach is pertinent to the varied learners in terms of the activists, reflectors, pragmatists, theorists and the flexible ones inclined to all learning styles.

Naish (1992:114) says that: "An across-the-curriculum approach embracing practitioners can cater for the needs and the development of the abilities of diverse learners to optimise them relevantly". This suggests that the underperformance of Geography learners in grade 12 in Limpopo could be attributed to teachers' lack of expertise in integrated subjects. An acquisition of geographical knowledge by learners equips them to "understand the earth and evaluate the environmental and developmental challenges facing us" (Ho, 2010:20). McKay (1993:20) says it is the expert Geography teacher's responsibility to conscientise the learners of Geography in

schools. Learners should know about the opportunities in geo-tourism and geo-heritage, which could be threatened by vandalism, environmental degradation and neglect.

Cotton (1995) uses Koib's theory (1984) on learning styles, which is highly relevant to the research study; it is discussed as follows: Prior to discussing the individual theorists driving our teaching and learning practices, the researcher indicates that the curriculum of Geography comprises many geographical phenomena, content features underpinning natural features, or landscapes, topographical pictures, graphics, etc. For all these facts/data to be meaningful to the learners of geography, the skilful teaching of Geography is needed to unpack and present this to the learners.

Cotton (1995:134-135) holds the theory that learners are active participants in learning. This theorist terms them active learners, who are newly experience-based/ oriented. The learners are enthused by enjoying involvement in things, as they are happening / unfolding; where they are taking centre stage. The learners enjoy being involved in the company of other people working collaboratively. The second group of learners is termed reflective learners. These learners are characterised as cautious, thoughtful and low-profile learners; as they present themselves in the learning context they are observing, and they are listening and watching attentively; while the other peers are actively involved in the learning activities. The reflective learners get engaged in the learning actively after they have listened to the information. They interact when they are fully informed of the problem on which they should deliberate (Cotton, 1995:135).

The third group of learners are termed theorists (Cotton, 1995:136-137). This is a group of abstract thinkers. These learners are enthused by getting involved in investigating issues/problems; they operate in investigating issues/problems. They operate in accordance with blueprints or by a set rules governing the game. They logically display their cognitive knowledge. They employ tacitly relative concepts to tackle the task. The tacit application of concepts demonstrates their learning development. The theorists employ symbols in their labelling of the information, as well as general rules or interferences/theorems in their methodological explorations of ideas, principles and their applications.

The fourth group is comprised of the pragmatists. These derive their pleasure from learning by trying out ideas in practice. These types of learners are hands-on or head-on enthusiasts to challenges. They are experimental learners, who are not shunning at committing learning errors. Cotton (1995:137) attests Dewey's (1952) theory's theme: "The learner works on real-life problems, and learns from those who have solved the problems already."

Cotton (1995:137) hastens to advance Dewey's warning that: "However, there is an important proviso: If you start from a sound basis of good practice, the student will learn to develop further sound practice; but if you start from a basis of poor practice and unsound principles, then the learner perpetuates [your] poor practice."

The research study attests to the two views of these theorists because Geography results in Limpopo's grade 12 matriculants dwindling from 1999 to 2008. The poor performance seems to be underpinned by the fact that the teachers of geography are somehow incompetent. Lastly, Cotton (1995:138-139) discusses the theory of flexible learners. These learners are associated with the acquisition of all the learning styles on which the researcher has deliberated. The learners inclined to this theory are viewed as mature and independent. They are multi-skilled or multi-blended. They combine activists, reflectors, theorists, and pragmatists into one. The researcher could term them curricula geniuses. The guess is that these are a rare breed.

The frameworks for teaching held by Dale, Ferguson and Robin (1988:23-24) are relevant to the investigation of barriers to Geography learning and teaching in Limpopo. Their quotation is apt to the research study's problem: "If teachers do not understand what learning is, and how it happens, they are as likely to hinder as to help; and unless their intervention is timely, and their exhortations are appropriate to the learner, they will be unhelpful."

This quotation aptly highlights the theory of constructivism with particular reference to how the teacher of Geography can provide opportunities for the learners of Geography by virtue of the teacher's command of deep knowledge of the subject to benefit the learners, so that they can learn meaningfully. On the contrary, the teacher who does not command deep knowledge of Geography becomes a barrier to the learners of the subject. The teacher becomes unhelpful to the

learners, who are yearning to learn the subject, so that they can grow to be Geographers in the future. These scholars (Dale, Ferguson & Robin, 1988:24-31) hold the view that the prescribed material should be connected to the learner, who is looking for an answer to a question that matters to the well-being of the learner. Dale et al. (1988:24) point out a challenge: Learners who are helped by the ineffective teacher feel threatened. The threat of failure stops learners from learning from the teacher, because the subject teacher does not live up to the learners' expectations of the subject Geography. Learners are receptive in the learning of the subject, when the subject teacher creates conducive opportunities for them. Obstructive and non-conducive learning environments switch off the learning desire in the learners to learn the subject (Dale et al, 1988:25, Hergenhahn & Olson, 1997:2).

Dale et al. (1988:25) highlight in their theory of learning that effective teaching and learning realisation is dependent on the subject teacher's knowledge and using the learning material for what it is intended for, as the theorist Cotton (1995:134-139) alluded to earlier on. Both Dale et al. (1988:26) and Cotton (1995:134-139) emphasise the view that certain ideas and skills presuppose benefits to some learners; while others disadvantage the learners. That means there are ideas and skills that are not easily grasped and mastered by some groups of learners; while others do benefit. Put simply, the activist–pragmatist learners do not enjoy equality with the theorists from similar learning materials presented in the same teaching styles by the same subject teacher.

The subject teacher can benefit all the learner types when his/her approaches, methods, and styles are applied flexibly to suit all the learners holistically.

If the teacher of the subject does not take cognisance of the existence of multi-talented learners in the classroom, that teacher is doomed to fail in teaching the learners. Dale et al. (1988:28) hold the dictum that: "Whatever you are teaching, you are teaching yourself".

The quotation reveals a deep educational philosophy. It implies that the teacher is part and parcel of her/his learners; it means the learner is a replica of the teacher that produced the very learner. The learner is learning about the teacher and from the teacher. Therefore, if the teacher applies

efficacious teaching strategies in relation to the curriculum, this would result in producing competent learners. The good product would uphold and perpetuate the good name of the teacher. The bad product, on the contrary, would haunt the teacher perpetually. The question of teachers' self-development is in principle subject to the life-learning process. Self-development in the curriculum equips the teacher with the relevant skills and strategies to redress curricular shortcomings/barriers to teaching that subsequently impact negatively on learning. The end-result thereof is poor performance in grade 12 Geography results. Dale *et al.* (1988:29) quote Albert Einstein who said:

“The only rational method of educating is to be an example! If you can't help it, be a warning example.”

Einstein's words simply mean that a balanced teacher/professional produces well-prepared learners. The learners produced by a competent teacher manifest skills; and they demonstrate the skills when life-situations arise. Conversely, learners who happen to be taught by ineffectual teachers would show an inadequacy of the appropriate life-skills. Therefore, a capable teacher protects, promotes and markets her/himself through the learners s/he produces. Teachers who are excellent themselves in their teaching deserve to see excellence in their learners. They are leading by example. Jude's (2005:64) dictum sums it up: “Set the example that you want others to follow, and sit back and reap the rewards.” Learners sing the praises of excellent teachers and denounce the names of underperforming teachers. Consequently, learners are living testimonies of their teachers outside the classroom.

Naish's (ed.) (1992:177) theory on textbooks and users is as follows: “... textbooks, like any tool, can only be as effective as the skill of their users, whether these be teachers or pupils.”

Naish (ed.) (1992:177) attests to Graves and Murphy's (2000:229) theory on textbooks and users. This theory puts it aptly, when it claims that a tool is grafted for an intended purpose to be used by a skilful user to realise its objective. Sawyer (ed.) (2006:2-3) holds the view that there are educational principles of which teachers should take cognisance, when it comes to learners learning the basic facts. They are, firstly, the importance of a deeper conceptual understanding to

be acquired by learners in the learning activity. The acquired expert knowledge would help the learner to apply their knowledge pertinently to life situations; as they would pertain in various ways (Sawyer, 2006:2). Secondly, it is a basic fact that focusing on learning, in addition to teaching (Sawyer, 2006:2) necessitates that learners must not only learn deeper conceptual understanding from teaching; but the learners must actively participate in their own learning. It is incumbent upon the curriculum teacher to provide learners with the necessary techniques to explore their learning. Thirdly, the teacher is obligated to create learning environments. The teacher and managers of the school should provide the full range possible of learning to their pupils. It is in good opportunities and facilities that learners would be able to apply expert deeper conceptual understanding to the real problems of the world (Sawyer, 2006:2).

Fourthly, the teacher should recognise the importance of building on a learner's prior knowledge (Sawyer, 2006:2). It is critical to teachers to be conscious that learners come to their classes with preconceptions of some facts, not empty-headed. Their preconceptions about the world are either positive or negative; and therefore, classroom learning builds on the existing knowledge to correct misconceptions and promote correct knowledge, in order to sustain learners' survival in the world. Fifthly, it is necessary to value the importance of reflection. The teacher must know that s/he engages the learners in conversations and presentations to practise the acquired deeper conceptual understanding in real-life situations on how to fend for themselves in facing life's challenges.

Quintana, Shin, Norris and Soloway (2006, in Sawyer [ed.] 2006:137) focus on the learner's understanding and thinking in their acquisition of knowledge. Learners are naturally inquisitive in learning or the pursuit of knowledge. Learners, according to these scholars, pursue conviction within themselves; and that is why they are eager to learn the facts. They should be convinced of the meaning of the learned material. They should be able to convince an interlocutor about what meaning they have derived from the content, and what value it has for their lives. The scholars emphasize the fact that learners should discern the connectivity the learned content has in relation to their context or environment. In whatever a learner is engaged, s/he should strive to make sense or strike a balance with her/his environment, in order to survive mutually.

That forms the essence of the learners' cognitive construction in relation to the learned facts in the learning situation. The learned facts should effect in learners conceptual changes to grow. The cognitive constructions assist learners to assimilate and accommodate the concepts in the schema construction and reflective abstraction level. The learner acquires knowledge of the world through knowledge skills, in order to learn the subject – due to the lack of efficacious strategies. Therefore, it is conclusive that unskilful teachers of Geography cannot create learning opportunities for learners to learn independently and co-operate to benefit from the content in a constructivist approach to optimise learning appropriately in the subject.

Kent, in Naish (ed.) (1992:178), goes further to deliberate critically on textbooks on any prescribed curriculum of the DoE. This scholar holds the view that textbook knowledge can be outdated or irrelevant to the lives of today's learners. The view advocates that prescribed material must cause the learners to assimilate and accommodate it in themselves. The acquired knowledge finally is consolidated by the learners to form part and parcel of their being. Mutual interaction promotes sustenance between the knower and the known (Quintina et al., 2006:137). The acquired knowledge is used in the future when situations arise through appropriate knowledge transfer pertinent to the current life situations.

The second view held by Kent, in Naish (ed.) (1992:178), is that the language of the textbook is difficult to be read. The textual problems have do to with the concepts, long sentence or phrases, the readability of the textbook and other complex features unfriendly to the learner/user of the material (Naish, 1992:183). The implications are that second-language learners cannot cope with difficult language compared to the ease of using a simpler language. Another learning difficulty emanates from difficult learning passages. Learners cannot discern key points from chunks of information borne in long sentences in a broader passage (Naish, 1992:186). The solution to the learning barriers is dependent on the instructional help of the teacher. The teacher works with learners on the text to overcome the experienced barrier (Naish, 1992:187). This strategy is not without teaching and learning challenges, because its success depends on the expertise of the teacher.

The teacher should consequently command the necessary expertise to discern and identify any barriers in the material in relation to the learning barriers of the learners. If the teacher is not competent to handle the challenge, the learners are the losers and victims of the teachers' shortcomings in the subject; and the learners would effectively become poor performers in the subject. The question of literacy comes into the picture.

According to Sawyer (2006:300), the term literacy is defined as: "a repertoire of practices for communicating and accomplishing goals in particular social and cultural contexts, which are pertinent to [the] teaching and learning activities". Teaching and learning activities are executed and facilitated through the use of language to effect the knowledge acquisition in learners. Riet and Heimburge (2006:199) state that literacy embraces reading, writing and oral language. For the learner of any curriculum, in the applied sciences in particular, such learners must demonstrate literacy in engagements to actualise deeper conceptual understanding of the realised knowledge. Therefore, for the purposes of the study – on barriers to Geography learning and teaching in Limpopo – It is critical that literacy mastery must be viewed as one of the imperatives to be looked into. It is viewed as one of the suspected barriers to the attainment of good performance by learners.

The theorists in Sawyer (ed.) (2006:302) propose three dimensions of literacy; but the operational literacy is preferred for being pertinent to the research study; and this is defined as follows: "Operational literacy, which includes competence with the tools, procedures, and techniques involved in handling written language proficiency in communicating information to be intelligible to the listeners and readers. .

The researcher views the quotation as significant to the study in relation to its characteristics. These are defined as follows (Sawyer, 2006:302-303): The operational literacy underlines the process of how the learners interpret new information, as well as how the learner assimilates and accommodates the information/knowledge into her/his memory structures or schemata (Sawyer, 2006:303).

It suggests, as Radnor (2002:14) and Seligmann (2011:13) maintain, that the use of the language (English) as the medium of communication, forms one of the critical barriers to the learning and teaching in grade 12 classes in Limpopo and beyond to the tertiary level. The learners are obligated to command an understanding of the complex concepts of geography. They should be able to operate in geographical situations in those concepts. They must be able to interpret and infer information from passages of the textbooks. The interpretation is underpinned by the skills needed to recognise words that form links in the learning activities. The learners must demonstrate the ability to read between the lines and come up with the facts, and how those facts relate to the learners in a clear manner to the reader/listener in the presentation or conversation.

The conviction effected by the learner would demonstrate that the learner interacts meaningfully with the learning content in the learning situation (Sawyer, 2006:303).

Focusing on language in education, Vermeulen (2000:15) agrees with Vygotsky (1995:181), who stated that: “Language gives us the control of our actions by breaking the stimulus-response chain; it helps us to distance ourselves from the experienced reality and reflect upon it on a conceptual level; and finally, the literacy skills that we acquire in school open up a whole new world of dialogue, ideas, experiences and possibilities – beyond the space and time limitations of our physical existence ... A limited knowledge of the language of teaching and learning undoubtedly contributes to a lack of academic involvement (Feuerstein, 1979:51); because language as a means of communication carries the whole teaching procedure.”

The intellect is formed at school in the first place, by securing learning with insight. For Gaunter, Estes and Schwab (1995:97), to know a subject is to participate in a specific way of thinking, to become disciplined in thought with other people, whose thought processes are no different from one’s own. In order to learn with insight, the learner requires from the teacher an accurate explanation of the concepts and the problem-solving skills. In the process of concept development, learners learn to think about their own thinking; and they understand how concepts originate.

The researcher holds the view that the quotation used above forms the basis for the justification for the investigation of the existence of barriers to Geography teaching and learning in grade 12 in Limpopo. The researcher views the quotation as embracing all the pertinent factors impacting on expert teaching and effective learning of Geography. The focus is on how information or content knowledge is conceptualised through the language of teaching and learning. James (2010:34) says that a quality teacher effects quality teaching. Quality teaching produces knowledgeable learners. The expert knowledge of the subjects forms the core of teaching and learning. The curriculum teacher's mastery of the language of the curriculum/Geography enables the teacher to implement effective and efficient teaching strategies that effect meaningful learning in the learners.

In the same vein, the language competence commanded by the teacher of Geography enables the teacher to enrich the learners with the necessary skills and strategies to learn independently to acquire some knowledge of geography. The skilled learners would be able to participate actively in co-operative learning activities. The learners can manage to put ideas and experiences intelligently across to their peers through the appropriation of listening, speaking, reading, writing and, mathematical literacy skills. Through the employment of explanatory and interpretive abilities, learners can solve geographical problems in real-life situations.

Krajcik and Blumenfeld, in Sawyer (ed.) (2006:317), subscribe to the theoretical framework of project-based learning. Project-based learning was initially advocated by John Dewey (1959) and supported by Bransford, Brown and Cocking (1999). Krajcik and Blumenfeld (in Sawyer, 2006:318) build on active construction, situated learning, social interactions, and cognitive tools. They hold the view, firstly, that the learners' optimal deep understanding takes effect when they (learners) actively construct meaning evoked by experiences and interactions in the learning situation (Sawyer, 2006:318). Theorists (such as Sawyer, 2006:318) attest to Cotton's (1995:134-135) view that learners are active participants in their learning.

The active construction theory is the opposite of the Instructionist theory that is underpinned by the subjection of learners to passivity in the learning situation. The Instructionist approach accords teachers a central role to dispense information (Sawyer, 2006:318). The active-

construction approach promotes learning opportunities for learners by exposing learners to real-life situations and challenges. The learners in facing the challenges appropriate existing knowledge in their memory structures or schemata, in order to survive the challenges; as the learner is grappling with the experienced challenges. The learner learns extensively how to use the acquired skills or competencies pertinent to obtaining experiences in real-life situations (Sawyer, 2006:319).

The active-construction theory is relevant to this research; since Geography education or learning and teaching are practice-based or practice-oriented. The curriculum is environment-based from the physical, social, cultural, economic, political, ecological perspectives in learning Geography. The immediate surrounding is a learning object or material to be observed and mutually interacted with – for the realisation of a balanced survival. Learners learn co-operatively and experientially; when they are exploring the real-life situations connected to their wellbeing. Their connected learning with the environment develops and enriches their interrelationship with the environment. The learners develop a caring attitude to the immediate world; and they learn to value it by keeping it clean and conserved. The learners acquire and develop skills and strategies to keep nature in a good state, in which the learners' life is guaranteed and safeguarded.

Secondly, Krajcik and Blumenfeld (in Sawyer, 2006:319), go on to say that optimal learning occurs in a pertinent real-world context. The view is phenomenological in its inclination – in the sense that learners learn geography practically in a suitable geographical environment rich in observable geographical phenomena. Situated learners interact with geographical reality. The reality presents to the learners its value and meaning borne in the learning tasks performed by the learners. Once the learners of Geography derive value and meaning from the content in the learning situation, they can transfer it whenever related or similar situations in real life arise.

Therefore, the researcher can say newly acquired geographical knowledge is generalised appropriately to related geographical situations. Skilful learners can relevantly relate their prior knowledge and experiences to new situations (Sawyer, 2006:319).

Thirdly, these scholars highlight the social interaction idea, which signifies the importance of co-operative learning. Co-operative learning is useful in the learning of Geography; where learners embark on tasks or projects in a collective way. Learners construct shared understandings through debating ideas in a community of learners (Chaille, 2008:4-5). The learning incorporates the principles of learning Geography by focusing on striking mutual relationships and respect for international communities politically, economically, culturally, and legally (Sawyer, 2006:319-319).

Fourthly, cognitive tools (Sawyer, 2006:319-320) are critical in learning deeper conceptual understanding; and their acquisition broadens the scope of learning in children. Learners rich in geographical knowledge can manipulate and handle data at their disposal in the research situation; they can evaluate, interpolate, and synthesise data by the appropriation of pertinent tools to arrive at solutions to the targeted problem.

The aspects of motivation and cognitive engagement in learning environments form, according to Blumenfeld, Kempler and Krajcik (in Sawyer, 2006:475), an educative basis for learning sciences; as far as the learning and teaching of geography are concerned. The scholars argue that the effect of cognitive engagement is underpinned by the application of cognitive, metacognitive and volitional strategies to promote learners' understanding of the content. In the employment of the metacognitive strategies of the curriculum, the learner is able to set learning goals, plan how to attain the goals, come up with own self-monitoring strategies, ensure that s/he monitors effectively her/his learning; and lastly evaluates the effectiveness of own learning, whether there is any desirable progress made.

Having evaluated the level of progress attained, the learner employs redress to the challenges necessary to improve or sustain the acquired learning knowledge.

These scholars indicate that the key to learning is the effective level of motivation in the learner. Motivation is viewed as the driving force to realise learning in learners in Geography, or other related curricula. The Geography learner must have a sense of value to engage in the subject. If the sense of value is not obtained, it becomes a barrier for the learner to continue to engage in

learning Geography. The same motivation underpinned by value for the curriculum encourages enthused learners to concentrate on particular lessons on a particular topic in the learning environment. A Geography learner must be captivated by a topic in time and in space. The level of captivation enhances the level of understanding and assimilation and accommodation of the knowledge in the cognition of the learner (Sawyer, 2006:476). The acquisition of knowledge through cognitive engagement is effected by the conception of value that begets competence in Geography.

The acquisition of geographical competence is effected by expert teaching in the subject/Geography. It is the proficient teacher of Geography who can provide the learners with the learning competencies borne in teaching/instruction strategies and the skills that result in deeper conceptual understanding and development. It is the expert teacher who masters the ability to break down learning content to the most understandable level of activities – in order to be learner-friendly and to thereby optimise the learners' knowledge in Geography (Sawyer, 2006:477).

The aspect of relatedness or co-operative learning boosts learning in the learning community or society and in the learning environment. Learners' learning of Geography is underpinned by the adoption of the principle that geography promotes the sense of expressions of respect, caring, well-being, development in learners' as committed members to the global community. The realisation of the sense of relatedness in learners enhances in them the concept of autonomy as an opportunity. The opportunity is nurtured by teachers by employing efficacious teaching strategies towards the learners. It is the competent subject teacher that promotes learning autonomy or independent learning skills in learners (Sawyer, 2006:477). Effectively taught Geography learners, according to the scholars (Sawyer, 2006:477) respond to real-life challenges by displaying skills that provide solutions to the geographical challenges to sustaining life.

The accomplishment of autonomy or independent learning by learners of the curriculum of Geography should enable them to carry out any set goal for inquiry into any problem of concern in Geography. Informed learners would be able to demonstrate their skills to analyse and interpret geographical data with great effect in learning situations via scientific methods. They

ably demonstrate literacy and numeracy in their data manipulation and analysis (Sawyer, 2006:450-482). If the converse to literacy and numeracy in geography learning exists, it would be indicative of the existence of barriers to Geography learning and teaching.

The constructivist theorists view map analysis or interpretation as part of practical Geography teaching and learning. Of importance is the issue of map language, which, according to Burton and Pitt (2000:2), must be taken care of in the learning situation. In their foreword, these scholars emphasise the acquisition of geographical/knowledge, skills, attitudes and values in Geography learning and teaching by the teacher and the learner for practical purposes. The teacher must be knowledgeable in map teaching and analysis interpretation (Campbell, 2001: 2-3).

The teacher of Geography must provide the learners with the pertinent curriculum-learning skills, such as logic manifested in language use at complex levels of learning. Learners must apply critical and creative thinking in interacting with the facts or the learning content. They must be able to follow instructions, predict, analyse, compare, organise the learning aspects or activities tasked to perform with insight and comprehension. These scholars maintain that mastery of the skills or activities mentioned above is critical for learners to manage the daunting and complex tasks of map-work learning. Map work literacy and numeracy command in learners manifests in the ability to find data, and measuring, recognising and interpreting data independently in collective, learning groups (Burton & Pitt, 2000:1).

The learners are expected to read types of maps very intelligently with regard to the symbols in respect of buildings, beacons and wind pumps in the commercial corporate world. Furthermore, literate and numerate learners would be in a position to identify and indicate line symbols signifying transport networks, such as roads, railways and power lines; enterprises area symbols will be pointed out revealing cultivation, woodlands and water pans. Underpinning the information-bearing features advanced above, is learners' knowledge of colour groups, which are part and parcel of geographical knowledge.

Proficient learners would be effective and efficient in the use of the language of teaching and learning (English). The informative learners would be able to tell or inform their teachers on how

contours are identified or viewed – characterised by the brown colour. Secondly, rivers, marshes or vleis, reservoirs and canals are designated by the blue colour. Thirdly, the green colour symbolises vegetation for different purposes, like golf courses and woodlands; black signifies construction features, and in particular, bridges, telephone lines and mass-dumping areas, like mines, as well as dam walls. On the other hand, symbols of grey would be identified as fences and built-up urban areas. Finally, the red and pink colours bear national, arterial and main roads, marine lights and light houses. They are intended to signify international boundaries, as well (Burton & Pitt, 2000:2).

Figure 2.2 bears map analysis/interpretation with specific reference to practice of manifesting barriers to Geography learning and teaching in grade 12 in Limpopo.

### **Figure 2.2 Map analysis/interpretation of map-work**

1. **Conversion of scale:** In South Africa, we make use of topographical maps, based on a scale of 1:50 000 and orthophoto maps, based on a scale of 1:10 000. Learners are taught to memorize the conversions of the two scales, e.g. 1mm represents 50m; or 1cm represents 500cm. These conversions are spoon-fed to the learners. Learners need not be given formulae; but they should be guided to derive their own interpretations.
2. **Interpretation of map references:** Map references are displayed on the maps supplied by the Government, e.g. **2826BB VIRGINIA**, where 28 stands for 28<sup>0</sup>S and 26 stands for 26<sup>0</sup>E (latitude and longitude, respectively). BB stands for 0'S latitude and 45'E longitude. The shaded reference is where Virginia is situated.
3. **Magnetic Bearing:** Magnetic declination is displayed alongside or below the supplied topographical map. Mean magnetic declination 190° 32' West of True North and mean annual change 6' westwards. These are the words that always accompany the magnetic declination. The teacher may pose a question such as: "What will be the magnetic declination for 2007?" The answer should be like this:

Difference in years = 6 years

Magnetic declination for 6 years ( $6 \times 6'$ ) = 36' West

Magnetic declination for 2007 =  $19^{\circ} 32'$  W

$$\begin{array}{r} 36' \text{ W} \\ \hline 20^{\circ} 08' \text{ W} \end{array}$$

Many educators cannot convert degrees to minutes or minutes to degrees. When moving eastwards, there is always subtraction. When moving westwards, there is always addition.

$28^{\text{S}}$	$5^{\text{E}}$ 326AA	$15^{\text{E}}$ 26AB	$30^{\text{E}}$ 5BA	$45^{\text{E}}$ 3B	$27^{\text{E}}$ $28^{\text{S}}$
$15^{\text{E}}$	2826AC	2826AD	2826BC	2826BD	$15^{\text{E}}$
$30^{\text{E}}$	2826CA	2826CB	2826DA	2826DB	$30^{\text{E}}$
$45^{\text{E}}$	2826CC	2826CD	2826DC	2826DD	$45^{\text{E}}$
$29^{\text{S}}$					$29^{\text{S}}$
$26^{\text{E}}$	$15^{\text{E}}$	$30^{\text{E}}$	$45^{\text{E}}$		$27^{\text{E}}$

4. **Gradient:** Measurement of the slope depends on the horizontal distance and the vertical difference. Two places, which are 8cm apart are given with the following altitudes: 1320m and 1344m.

Horizontal distance =  $8\text{cm} \times 500\text{m} = 400\text{m}$

Vertical difference =  $1344\text{m} - 1320\text{m} = 24\text{m}$

Gradient =  $24/4000 = 1:167$

(Burton & Pitt, 2000:6-7).

**Figure 2.3 Distance Calculations**

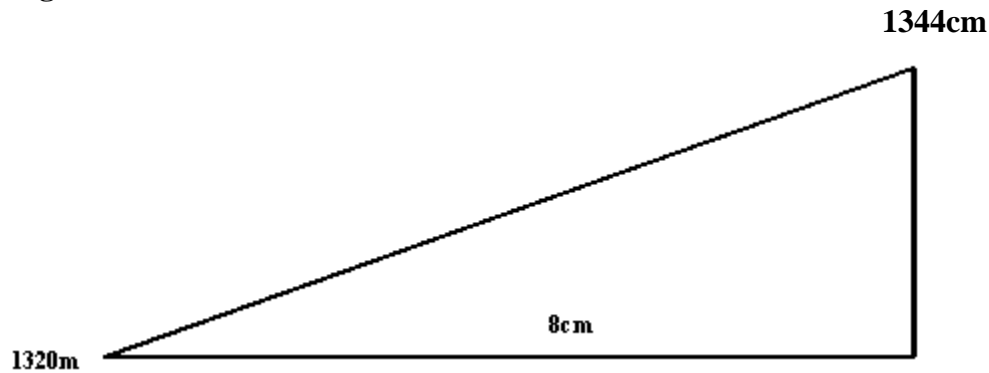


Table 2.1 provides contrasting performance levels of grade 12 learners in Geography higher grade in Limpopo. Firstly, from 1999 to 2006, the results were disastrous in the subject. The performance average was 29.9% in the period under review. Secondly, in the subsequent three years, the pass rate was 60.3% in 2007, 77.0% in 2008, and 64.9% in 2009. For all the years in the spotlight (1999-2009), the performance can be collectively quantified at the average of 37.4%. This performance is below par, according to the set DoE's National Standard of 60% pass bracket level. The Figures 2.3 and 2.4 bear testimony to the provincial performance. The researcher assumes there must be underlying factors at play regarding the teaching and learning practices and approaches to Geography in Limpopo classrooms.

It is assumed that the poor performance in the period in the spotlight was influenced by the teachers' approach to instruction. The instruction was coupled with learners' rote learning of the subject Geography. The teaching and learning activity of the subject was the converse to the principle that:

Geography teaching and learning activity is outdoor context-based. "Geography is supposed to be a live subject" (Kent, 2002:4). Geography teaching and learning activity affect every walk of life, be it dressing, business setting, residence setting/establishing, airport building, etc. The latter activity is dictated by the wind directions and the levels conducive to flight networks.

On the one hand, the researcher could argue that based on the performance of the last three years in the time-line (2007-2009), it would seem the Geography teachers were teaching effectively. It

would seem that the teachers have employed effective data interpretation practices regarding diagrams, as opposed to mere rote learning. The teachers skilled the learners on drawing-based, map-work learning by using a technological approach in the laboratory and home-based TV sets during weather forecast. It would seem that learners were taught to use calculators to store information to retrieve for use in the classroom for practical purposes, instead of mere rote learning. The learners, through the work done by the Geography teachers, could apply practically ratios, degrees, kilometres/grams – numeracy skills to interpret the data. The acquisition of numeracy skills appears to have been applied successfully during 2007-2009. The performance indicates that the principle that the wisdom of Geography being a touch manipulation-based subject was realised.

The question of numeracy skills is very critical to Geography teaching. Teachers must not memorise mathematical calculations; but they must master them. They must pass the mathematical skills to learners, to be able to apply the knowledge appropriately to map-work type questions, in order for them to be able to perform well. Learners who command maths literacy can answer questions based on ratios, degrees, kms or graphs, contrary to those ones who use mere rote learning. Such learners cannot approach questions framed differently by the examiners, as is the case in learner assessments designed to test their understanding. On the other hand, the researcher assumes that the conceptual barrier that seems to have marred teachers' teaching and learners' learning seemed to have eased in the period 2007-2009.

The numeracy for the subject Geography is characterised by the use of many concepts and phrases, which need to be mastered and appropriated pertinently by the teacher and the learners. Setati (2011:11) accentuates that English literacy and mathematical literacy are critical to the learner, if they want to perform optimally in maths and Geography. Therefore, it is incumbent upon the teachers to present and administer the subject (Geography) practically/experimentally in the classroom-learning environment, as opposed to the theoretical presentation of the subject. Learners must learn Geography through field excursions, during which relevant questionnaires about the touched/visualized phenomena like caves, dongas, rock features, cloud formations, etc. must be classified and identified. Learners must be engaged in practical activities where, over a

specified period, they record the weather patterns of a city, regional temperatures and wind directions, rainfall patterns and ranges.

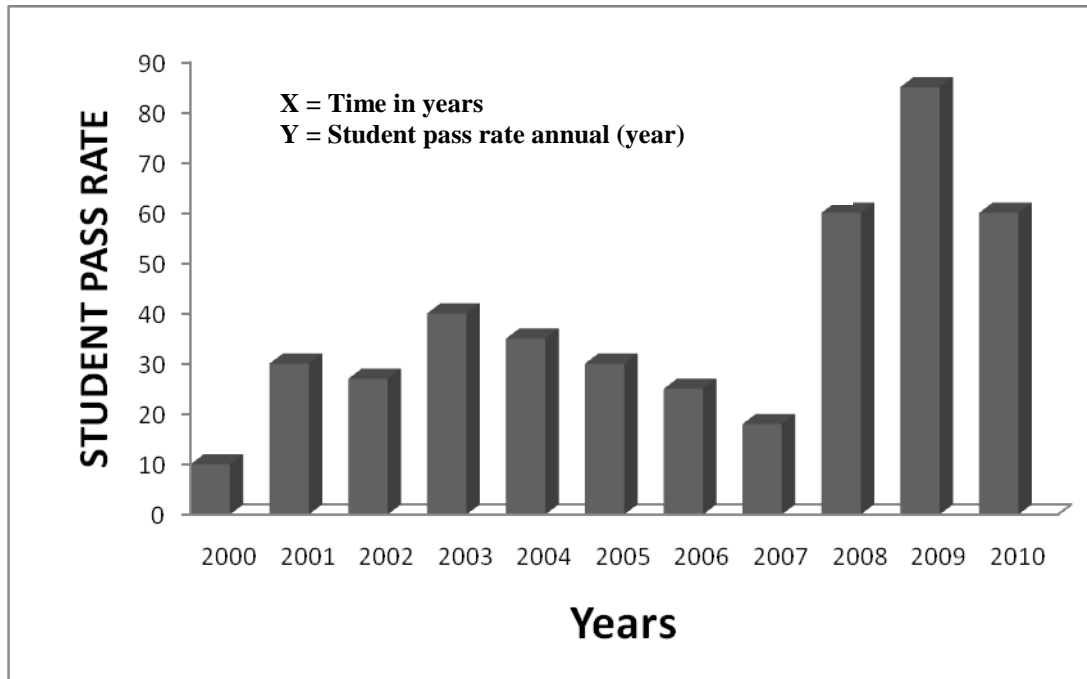
Such practical lessons would remain in the learners' minds by virtue of the meaning they draw from the live phenomena impacting on their real-life experiences.

Over and above that, the acquisition of practical skills would enable learners to answer questions on factors affecting the question of rural settlements, as well as urban settlements (Swanevelder et al., 2004:211). Well-trained teachers would be able to teach learners to provide evidence from given map(s) to show that a certain place is dysfunctional: learners would be able to answer the question to name and explain a dominant settlement pattern in another place provided in a given map. They would be able to go further to describe discerned physical factors, which influenced the choice of a particular/site for another place in question.

Further, the learners would be able to foresee environmental problems associated with arable farming in the named place in the map, using the data provided on the map. The learners would be able, by their commanded linguistic literacy, to put their thoughts across intelligibly to the reader. They would be successful in their communication by virtue of their command of the related Geography-based conceptual abilities. Therefore, it seems to the researcher that the poor performance registered in 1999-2006 examinations seems to have been as a result of a lack of language literacy, among other critical factors, in teaching and learning. The converse performance of the years 2007-2009 justifies the above argument.

The assertion will be confirmed or rejected in Chapter 4, when the collected data are interpreted and analysed in terms of the problem under investigation.

Figure 2.4 on the time-line of performance is presented next.



**Figure 2.4 Time-line of performance**

According to the figures in Figure 2.4, from 2000 till 2007, Geography learners in Limpopo were underperforming. The pass rate was below average (50%) for all these years. For the period 2008 - 2010, there was a significant improvement in the grade 12 results for Limpopo province. For these years, Limpopo managed to score above average.

The average pass rate for 2011 was  $= \frac{411.8}{1100} = 37.44\%$ .

4

## **2.4 SUMMARY OF CHAPTER**

The researcher explored the literature to acquire knowledge on Geography learning and teaching underpinning grade 12 learners' performance in the Limpopo Province. The scholarly literature and specific researched works on the question provided critical data, which comprised the pinnacle of the study, as shown in Figures 2.3 and 2.4. The literature findings will be confirmed or rejected in Chapter 4 by the responses of the respondents to the individual barriers under investigation.

## CHAPTER 3

### THE RESEARCH METHODOLOGY

#### 3.1 OVERVIEW

The researcher undertook to investigate barriers to Geography learning and teaching in grade 12 classrooms in the Limpopo Province, because of the decline in pass rates during the period 1999 to 2011, as evidenced in Figure 2.4. In pursuit of investigating the problem of the study, four critical questions were addressed. They are as follows:

- Do Geography teachers have the relevant expertise/proficiency in the subject and the LoLT to accomplish the desired teaching and learning?
- Do learners have enough skills to use the LoLT in their learning of Geography?
- Do the English and Geography textbook levels encourage learners to learn?
- What influences Geography teachers to code-switch from the LoLT into the MT; and what consequences does this practice have for the learners?

The reviewed literature partially addresses these questions. Essien (2010:32-34) states that code-switching by Geography teachers and their learners is regularly used in the classroom/learning environments. The practice is a consequential barrier to the curricula of second-language learners (English). This barrier is also reflected in the learning of Geography in the Limpopo Province. The second-language learners' hurdle in learning geography is characterized by constraints, such as Geographical concepts underpinned by difficulty of the language itself, whereby the concepts are conveyed (Essien, 2010:34). Essien (2010:34) claims that learners underachieve in matric examinations (mathematics), with Geography as a case in point in this study, because the LoLT serves as a constraint to second-language learners. Essien (2010:34) aptly puts it this way:

“...underachievement in matric examinations (Mathematics) in South Africa has been found to be more prevalent amongst [those] learners, whose English language [is used] less frequently at home (SimKMS in Taylor, Muller & Vinjevold, 2003) than in areas where English is more frequently used at home.

Mathematics educators dealing with learners, whose first language is not the language of instruction, thus, need to be conscious of the complex process of not learning a second language (Cuevas, 1984); but also the even more complex process of learning (mathematics) in a foreign language”.

Essien’s informative quotations relate precisely to the learning constraints to Geography learning, with specific reference to learners’ underachievement in grade12 Geography examinations in the Limpopo Province (Aldous, 2004:65).

The researcher was prompted to carry out the research having observed the ongoing poor performance in the subject. The researcher’s concern was based on the fact that the researcher had an interest in Geography teachers’ practice – and specifically in Geography classrooms. The focus was on teaching behaviours linked with the learning of Geography in context (Merriam, 1998:7). In order to observe teachers’ practice, the researcher had to do fieldwork in Limpopo’s rural classrooms, in order to witness teachers teaching practically in context for data-gathering purposes. The researchers’ exposure to live-classroom practice in depth enabled the researcher to describe in a non-biased manner their attitudes of teaching and learning the subject.

That subsequently would yield the results relevant to the question of the poor performance pursued in the investigation (Lichtman, 2010:41-42).

The researcher’s ultimate objective for investigating the barriers to Geography learning/teaching was to acquire new ways of teaching learners Geography, in order to realize good learner performance in Geography in the future (Magare, Kitching & Roos, 2010: 52-63). Having stated the objectives of the research, the researcher considered the choice of research design and methodology; this enabled the researcher to gather the data specifically focusing on answering the research questions (Drew, Hardman & Hosp, 2008:21).

### **3.2. RESEARCH DESIGN AND PURPOSE**

The researcher considered the choice of survey design, which is qualitative, explorative and descriptive in approach (Mertens, 2010:177, McMillan, 2000; 272). According to Vanderstoep and Johnston (2009:165), this type of qualitative research serves to enable the researcher to articulate qualitatively the question of barriers to Geography learning and teaching in grade 12 in the Limpopo Province. It is clear that the Geography teachers are at the centre of the problem of barriers to learning and teaching. The researcher asserts that Geography teachers cannot be isolated from the pass-rate expectations, which are cardinal to their professional roles and accountability to the public.

The researcher had to ask Geography teachers whether they (the teachers) believed in the benefits of supplementing the difficult English and text level for the second-language learners to learn with ease, in order to optimize their performance. The researcher also had to ask whether they (the teachers) embrace code-switching from LoLT into MT in the teaching and learning in Geography classrooms with the intention of assisting the learners to understand and perform, as expected of them in examinations. Did the teachers value the implementation of pedagogical knowledge and assessment strategies to realize better learners' pass rates in Geography examinations? Do Geography teachers have the conviction that they should create opportunities for learners to acquire Geographical knowledge and skills, to enable them to attain better pass rates in examinations?

Before looking into the questions posed above, the researcher consulted the literature on research designs used in education. Vanderstoep and Johnston (2009:165) say:

“Qualitative research focuses on the meaning of the experiences by exploring how people define, describe and metaphorically make sense of these experiences.”

These scholars sum up the core of the qualitative method as focusing on understanding in depth the view point of participants to shed light on the question the researcher pursues, in order to

arrive at a scientific conclusion/ answer to the research question (Vanderstoep & Johnston, 2009:167, Barrow & Micburn,1990: 236). The final stage of the research used the quantitative method, to express the participants' responses mathematically; since it is handy in the data analysis and interpretation stage (Gall, Gall, & Borg, 2010:115).

According to Gorard and Taylor (2004:47), the literature is the most used approach, which combines evidence from several sources/studies. This approach considers using previous works in the same field as the researcher's problem. The researcher used the relevant evidence gathered through the literature, in order to shed light on the problem under investigation. Gorard and Taylor (2004:47) state that:

“All researchers read and use the research of others.”

The principle is that researchers use peer-reviewed papers, books, previous reviews and face-to-face communication with the experts. They read sources on theory, practice and methods, as well as the evidence available to them (Gorard and Taylor 2004:47). The reason for pursuing the pertinent literature and viewing television, listening to experts deliberating on specific educational issues, is to equip the researcher with strategies to answer the questions, and to ensure that the investigation is pursued relevantly and comprehensively.

Vanderstoep and Johnston (2009:166) highlight the bottom line of the qualitative researcher as follows:

“A qualitative perspective assumes that knowledge is constructed through communication and interaction; as such, knowledge is not ‘out there’, but within the perceptions and interpretations of the individual. In short, knowledge is constructed or created by people. A qualitative perspective assumes that you cannot analyse and understand an entity by analysis of its parts; rather, you must examine the larger content, in which people and knowledge function.”

Analysing inductively, the purpose of qualitative research from the quotation above, is to understand in-depth the feeling/attitudes of the research participants on the question of the researcher (Vanderstoep & Johnston, 2009:138). It is contrary to a preconceived idea held by a researcher going into a research project – expecting what to find from the content in context. On the contrary, Vanderstoep and Johnston (2009:168) say that the qualitative research advocates/holds the view that:

“Let the data ‘speak for themselves’; and try to avoid going into the study with a preconceived idea of what to find.”

Pertinent to the questions underpinning assumed barriers to Geography learning and teaching stated in Chapter 1 and the overview of this chapter, it is in principle scientifically unacceptable to take barriers as assumed to be holding weight – without having subjected them to scientific tools for gathering the targeted data and analysing them by applying appropriate scientific techniques. Peculiar attitudes displayed by the sampled participants were observed in context – as displayed authentically without the researcher’s manipulation or hindrance thereof.

### **3.3. SAMPLING PROCEDURES**

The researcher was granted permission to conduct the research study in the Limpopo province, and was provided with statistics and results regarding Geography candidates. The researcher has used the purposeful sampling procedure in the five districts constituting the Limpopo Provincial Government Department of Education, in order to reach larger population representation. The districts are: Capricorn, Mopani, Sekhukhune, Vhembe and Waterberg. With respect to their locality, most of the learner population use their mother tongue and experience the LoLT (English) as a learning barrier.

The five districts that constitute the Limpopo Department of Education are as follows:

Capricorn district consists of 33 circuits; Mopani district comprises 24 circuits; Greater Sekhukhune consists of 33 circuits; Vhembe district consists of 27 circuits; and Waterberg is formed by 18 circuits. There are 135 circuits across the 5 districts in the province (Figure 2.1).

The targeted Geography learning area's population during the period under review (1999-2009) was 442 732, who wrote Geography higher grade (1999-2007) and 2008-2009 National Curriculum Statement (NCS), respectively at 1700 Geography-offering secondary schools in the province. According to the small-size sampling technique of Kreicie and Morgan (1970:607-610), 407 learners and 16 subjects teachers from 16 Geography-offering secondary schools were sampled. From each representative school in each district, 76 learners were targeted (Mulder, 1982:191).

The purpose of choosing purposive sampling is that the researcher wanted to understand on a large scale the conditions under which learners are taught Geography – and specifically in rural schools in Limpopo. The researcher wanted to understand, through observing the teachers, teaching practically in Geography classrooms; while the learners participated in those lessons in which they were involved. The overriding rationale was to experience particular behaviour/attitudes occurring in context that influence learner's performance in Geography in grade 12 examinations.

The emphasis of site selection was that the researcher was interested in observing teachers of Geography teaching their learners in classrooms applying their methods and teaching strategies, coupled with respective assessments and recording procedures. The researcher was interested to know the teachers' attitudes during teaching, and the learners' reaction to the teaching. The teachers' and learners' interaction would inform the researcher of how the teaching and learning constraints, as outlined in the overview of this chapter, impacted on their teaching and learning context. That is: Did teachers find it difficult to simplify the LoLT to learners during the lesson? How did learners respond using the LoLT? Did the teacher code-switch? Did the teacher simplify geographical concepts embedded in difficult English (McMillan & Schumacher, 2001:433-434)? Through applications of the constructed tools to respective participants, the researcher was able to determine which would saliently emerge at the analytical stage of the gathered data concerning the question under investigation.

### **3.4. DATA-COLLECTION INSTRUMENTS**

Griffiths (2008:35) says methodology functions to help the researcher to go out there in targeted or focused contexts to get specific knowledge from specific participants on the specific questions. The researcher applied this particular technique to gather the data to study teacher and learner participants' behaviour in Geography classrooms. The aim of the study was to observe their behaviour and enquire of them how they felt about their learning in Geography. The researcher used questionnaires for teachers and learners, respectively, and interviews to supplement the questionnaires intended for the teachers of Geography. The aim was to ensure the validity and reliability of the tools for gathering the intended data, and to close any gaps that might have been created during the administration of the questionnaire (Cangelosi, 2000:67, 181).

The observation technique was employed on-site, in order to guarantee the validity of the data, and also as a means of triangulation that would supplement the data gathering during the employment of the first two techniques. Documentary analysis was another critical technique that was applied to inform how the subject teachers kept their details and portfolios regarding the finer details of their professional assessments and evaluations in class. According to Mertler (2009:106-107), during observations and documentary analysis, teachers are obliged to constantly observe, take notes on their learners' learning behaviour in context. The adopted approaches/techniques of research above are collectively termed research methods/triangulation. This is a way of combining methods (Gorard & Taylor, 2004:43).

Mertens (2010:293) quotes Tashakkori and Creswell (2007:4), defining mixed methods as:

“Research in which the investigator collects and analyses [the] data, integrates the finding[s] and draws inferences, using both qualitative and quantitative approaches or methods in a single study or program of inquiry.”

The mixed methods were adopted to answer the research questions that the researcher was pursuing to solve his (single) study problem of *barriers to Geography learning and teaching in grade 12 in the Limpopo Province*. The researcher employed the mixed-methods approach; because this provided richer opportunities for the researcher to gather the data. The opportunities were to incorporate pertinent techniques, which were from both the quantitative and qualitative research approaches – and to thereby answer questions that a single method could not answer (Mertens, 2010:294). The researcher chose to employ unstructured/semi-structured observations to collect the data on teaching and learning in rural contexts. The researcher used the technique of note-taking to collect the qualitative data. This type of technique for data gathering from actual learning behaviour is crucial for data gathering. This is because the researcher had the opportunity to write down what actually took place in the specific contexts without prejudice.

The researcher did not put oral questions to the learners; as this would have been disadvantageous; because the learners could not report on themselves. The researcher recorded what he saw – without being critical of the observations – lest this would unduly influence the observations (Mertler, 2009:109).

Merriam (1998:7) views the researcher as the primary instrument or initiator for the data collection and analysis. The view is based on the fact that it involves the researcher's physical ability to do fieldwork and collect the data needed. In compliance with the advocacy of Merriam (1998:7), the researcher physically went to the subjects in their operational contexts, in order to observe their actual behaviour and attitudes. The researcher employed the inductive strategy to build abstractions and to construct concepts, based on the classroom acts in relation to the teaching and learning behaviours of teachers and learning in Geography. In the final analysis of the research product, the researcher used the descriptive methods in supplementing the inductive approach.

The reason for this was that in qualitative research, the qualitative method comes in handy to interpret the participants' responses expressed in degrees mathematically. The mathematical expression makes sense to construct a bigger picture of the consequences of the displayed behaviour regarding the barriers/constraints in Geography learning and teaching. The

mathematical expressions of occurrences of responses to the items in the questionnaire probing the profiled, expressed the degrees of prevalence of each barrier. It elucidated the holistic existence of barriers to Geography teaching and learning, resulting in learners' underachievement in the examinations.

According to Punch (2009:290), the rationale for using the mixed-method approach is as follows:

“The fundamental rationale [in] mixed methods research is that we can learn more about our research topic if we can combine the strengths of qualitative research with the strengths of quantitative research, while compensating at the same time for the weakness of each method. This has been called the fundamental principle of mixed-method research” (Johnson & Onwueg-Buzie, 2004:18).

The quotation is apt; in that the mixed-method employment granted the researcher opportunities to gather critical data comprehensively on the identified problem, and to arrive at a solution. The application of triangulation methods could only be used through the use of all approaches and techniques addressing all the underpinning research questions stated in the overview.

Newby (2010:651) attests to Punch (2009:290), by advancing a constructivist view regarding the researcher's question as follows:

“...A theoretical perspective that presents learning as a process, in which we build an understanding of the world (our reality) out of our experiences of functioning in that world. In terms of research, it implies that we should adopt an interpretivist

.....approach to understand the world within which people operate.”

In gathering the desired data, the researcher had to observe how learners reacted to lessons presented by teachers in LoLT; and also how teachers responded to the LoLT when teaching Geography. This was categorised into professional, material content, language level, MT interference, and learners’ perception, as well as meaning realization of the content in a rural context.

### **3.5. THE DATA-COLLECTION PROCESS**

The data collection comprised a process of planning, designing and sampling, which resulted in the collection of raw data on the problem. It was the way whereby the researcher came into contact with real people operating in the context of the activities and attitudes displayed. All of these were executed central to the research question, in order to answer the research questions. That is, the designed instruments were specifically meant to focus on the inquiry, and to gather the data on what the researcher wanted to know and understand as constraints/barriers to Geography learning and teaching in specified contexts – resulting in learners’ underachievement in the subject.

The instruments used identified earlier on comprised questionnaires, in-depth interviews (face-to-face question-and-answer process), observations, documentary analysis, and teacher journals, school journals and learner journals; they were dealt with individually at this level.

It was incumbent upon the researcher to obtain approval from the authorities in the Limpopo Department of Education to conduct this research in their schools. The approval was sought in a letter issued by the research unit of the University of Limpopo – introducing and sanctioning the researcher as a bona fide research student of the Limpopo Department of Education (LDE). The researcher was then introduced by letter to all the relevant provincial levels of education. The researcher’s questionnaires were accompanied by a letter assuring the principals of compliance with the rules and regulations of the LDE, regarding research ethics.

The researcher informed the respective participants on the aims, purpose and likely publication of the research data contributed by them. Another critical point was that the participants gave their consent, before they participated in the information sharing. The aim of informing participants in the undertaking was in compliance with the research principle that the participants have a right to withdraw from participating; or they have a right to remain anonymous (Lowe, 2007:19-20). According to Lichtman (2010:54-55), the participants' privacy, confidentiality and anonymity were guaranteed by getting them to sign an informed consent form that explained these ethical issues.

Over and above the said principles above, the researcher was obliged to inform the participants of the nature of the study; so that they could choose whether or not to participate (Lichtman 2010:55). It was critical of the researcher to maintain and sustain rapport and friendliness, in order to ensure the disclosure of information from the participants. Intrusiveness by the researcher into personal matters of the participants was avoided at all costs, to circumvent any withdrawal of the participants from providing the needed responses to the focused questions of this research study (Lichtman, 2010:56-57).

### **3.5.1 The Participants**

Based on the previously mentioned barriers to Geography learning and teaching in grade 12 in the Limpopo Province, the questionnaires were prepared and distributed to 407 representative Geography learners and 16 Geography teachers in five different districts of the Limpopo Province. The teachers and learners voluntarily agreed to participate in the research. The questionnaires were developed in three parts predominantly for the teachers. The questionnaires sought biographic, academic and professional information from the teachers. The statement section was designed to investigate the teachers' implementation/ manifestation of the content and pedagogical knowledge in the grade 12 classrooms in the Limpopo Province. The learners were asked to provide their experiences, feelings and attitudes towards the problems of learning, and how they were taught the subject by the teachers.

A 19-item questionnaire was administered to the learners, asking them about their experiences. The questionnaire focused on the English and the content level. They were further asked:

whether they believed in the benefits of using code-switching from LoLT into MT in their learning activities; whether the geography teachers simplified for them the difficult textbooks and content to ease their learning; whether their subject teachers granted them opportunities to learn independently/ cooperatively; and whether learning geography was worthwhile for their lives.

A 26-item questionnaire was administered to the Geography teachers probing their conviction regarding the manifestation of the concepts of barriers in their learners and their lives? The LoLT (English) level was probed, to discover if it was a barrier to learners' attainment of effective learning; if the lack of Geographical knowledge and skills formed a barrier to learners' performance in examinations; if the texts level constituted a barrier to learners' learning; if the code-switching practice from LoLT into the mother tongue (MT) was advantageous to the learners' learning, and subsequently impacted on their performance in geography; if the teachers' employment of flexible pertinent teaching strategies provided skills and learning opportunities to learners to perform positively in geography; whether the teachers' proficiency in the medium of instruction and the curriculum underpinned effective teaching and learning, culminating in realizing optimal performance in the examination.

The questions were based on a five-point Likert scale: (1= strongly disagree, 2 = disagree, 3= neutral, 4 = Agree, 5=strongly agree). The questionnaires for the teachers were supplemented by interviews, observations and documentary analysis, and backed up by conducting interviews with the Geography examiners in the Limpopo Province. The purpose for interviewing the examiners was to validate the prevalence of barriers/problems manifesting themselves in the learners' performance in examinations. Another reason was to reconcile the responses of teacher respondents with barrier-oriented questions; because the examiners' assessment focused on the subtle and specific weaknesses of Geography teachers manifesting in learners' performance across the curriculum and all sections of the content.

### **3.5.2 Interviews**

While a total of 16 teachers at public secondary schools offering Geography in Limpopo were given closed questionnaires, unstructured interviews were administered to 10 geography teachers and two Curriculum Advisers in the province.

## **3.6. INSTRUMENT ADMINISTRATION**

### **3.6.1 Questionnaires**

The researcher employed measures that were valid and reliable at all times. This is in accordance with Leedy (1984) and Mertler (2009:114), who both maintain that the researcher's tool must measure what s/he thinks it is measuring (validity). Secondly the researcher's tool should measure accurately at all times and places (reliability).

Two questionnaires for teachers and learners, respectively, were constructed, focusing on the problems of Geography learning and teaching. For teachers, they were requested to give biographical information regarding their qualifications in Geography. In addition, they were asked to provide information on their teaching experience in Geography. The sought information would be analysed to determine the teachers' suitability and proficiency factor for teaching learners the subject. The instruments were first tested for the purpose of verifying their validity and reliability in terms of compliance with prescriptions of measuring what they (the tools) were purported to investigate. The first test enabled the researcher to redress any flaws in the questionnaires that might have occurred in the initial stages of the construction of the tools (Mertler, 2009:115).

Sixteen (16) teachers were given a comprehensive 26-item questionnaire, which asked them about the concept of curriculum; how the concept manifests in the learners' comprehension of their relationship with their immediate environment and beyond; the subject's learning techniques and skills; learners' thinking and knowledge construction; learners' ability to convey meaning in the learning context, as active and inquiring participants. The teacher participants were asked about their practices to determine the possibility of producing good geographical

citizens, who would be able to cater for the maintenance and sustenance of a balanced state of the environment – necessary for their survival.

The 19-item questionnaire was administered to seventy-six (76) learner participants in the representative schools offering Geography in each district (Kreicie and Morgan, 1970: 607-610). The probe was aimed at their levels of understanding of the value of the subject Geography in their lives. They were also asked to provide their insight regarding their roles in maintaining and sustaining the unpolluted environment for their survival. The learner participants were asked to provide their experiences acquired, and the problems they faced, in their learning of Geography in their learning environments. The problems focused on LoLT and subject-literacy competence, the Geographical concepts embedded in LoLT, the difficulty of the language (English) of the textbooks, and what their subject teachers did to help them to understand the difficult textbooks.

The tool focused on the impact of the compromise of the LoLT by practising code-switching into the MT. Code-switching has far-reaching consequences to the realisation of LoLT literacy, as needed by the learners. The focus on the tool was to determine whether teachers employed experiential learning/co-operative learning, or rote learning in their Geography classrooms. The application of participative or rote-learning practice would inform the researcher of the learners' performance in the subject of Geography. The experiential learning approach gives opportunities for discovering facts on their own, and articulating their discovery in reports and verbal presentations on their academic understanding in Geography.

Conversely, the rote-learning approach does not grow learner's knowledge, insight and meaning in the subject.

### **3.6.2 On-Site Participant Observation**

The researcher followed the ethical protocol of qualitative study by seeking permission of the sampled secondary schools and participants involved at the schools. The researcher ensured anonymity and confidentiality of the participants to protect the identity of the schools, teachers and learners. A relationship of trust was established between the teachers and the researcher by virtue of maintaining a cordial interaction. The researcher was allowed to audiotape the

interactions, which complemented the researcher's hand-written notes in the classroom without the researcher interfering in their activities. The researcher was able to spend a minimum of fifty-five minutes on average in a classroom. The researcher focused on the live interaction of the teacher and learners with a particular focus on the constraints of LoLT used in the interactions and learner involvement in the learning environment (McMillan Schumacher, 2001:437).

The researcher's particular focus was on the teacher's constant observation of his/her learners in action manifested by taking notes of the world around them (Magare, Kitching & Roos, 2010:52-63). The researcher did not participate in any way; while the teacher was conducting the lesson. He merely gathered the data on what he saw and heard, without being critical – lest he unduly influence the data collection. The teacher's proficiency in the subject of Geography served to inform the researcher of his/her essential Geography curriculum experiences; inter alia, the researcher observed how the geography teacher made Geography teaching easy for the second-language learners (English) learning.

The emphasis was on what the teacher did to simplify and supplement the difficult geographical concepts embedded in English. Secondly, the researcher observed how the learners' prior knowledge was recognized and turned into learning opportunities. This was realized by allowing them (the learners) to construct information at their own linguistic level to attain meaningful learning (Naidoo, 2006:9).

According to Jacobsen of the Mlambo Foundation (2011:18), the teacher's proficiency in English is a focal point. One of their major objectives is that they are eager to develop teachers in English proficiency, to enable them to express themselves and explain respective subjects' concepts in the LoLT (English). The Mlambo Foundation focus attests to the researcher's question as a national concern. Thirdly, the researcher observed the teachers' compliance with the marking of the subject of Geography – to ensure the effectiveness and efficiency of the teaching and assessment criteria employed. The aim was to determine the learner's performance in Geography. The researcher wrote notes on how the marks were allocated, by reconciling the actual teacher's allocation with the memoranda's allocation. This was done to ensure the validity

and reliability of the teacher's assessment/test; because the criteria for testing learners' knowledge through a test were to actualise educative teaching and meaningful learning.

### **3.6.3 In-Depth Interviews**

The researcher employed interviews as an instrument to gather deeper data on the understanding of Geography teachers' experiences, thus complementing the participants' observation technique. The respondents were interviewed on practical Geography teaching and learning experiences concerning problems around the use of difficult textbooks, coupled with grappling with English as the medium of instruction for second-language learners. The researcher wanted to know more about other peculiar barriers experienced in each context – by conversing at great length with the practitioner interviewees. As the interview progressed, the researcher taped the proceedings to transcribe for analysis at a later stage.

The researcher employed the instrument, as advocated by Creswell (2005:231), and attested to by Van Putten, Howie and Stols (2010:25) for its “bottom-up approach.” This is an approach whereby the researcher drew/gathered the data from those practitioners who provided the first-hand experiences needed to confirm the prevalence of barriers to Geography learning and teaching for answering and resolving the research questions (McMillian & Schumacher, 2001:42, 433).

### **3.6.4 Documentary Analysis**

On-site participant observations and in-depth interviews, interlaced with documentary analysis, which complemented one another, to gather comprehensive data on the participants' attitudes, feelings and experiences on learning Geography in an English context. Documentary analysis was a tool for gathering the data from records on past events that were written in the form of notes during teachers' constant observation in the classroom. In addition, there were letters based on learners' experiences in context, learner diaries extracted by the subject teacher, and other critical related documents on classroom/learning environment activities (McMillian & Schumacher, 2001:42,451-452).

Official documents on learners' assessment, including internal and external question papers, were accessed and perused, in order to determine whether the assessment criteria of learners in Geography, as prescribed by the Limpopo Department of Education (LDE), were adhered to by the teachers to determine whether the teachers' compliance was in agreement with the learners' achievement and learning in Geography. Learners and subject teachers' files were read, in conjunction with the prescribed programmes, which also provided information on the barriers to Geography teaching and learning in Geography classrooms in Limpopo.

In relation to the records, the researcher did not get hold of graphs of monthly and quarterly or continuous learners' performance. Finally, for annual examinations' statistics in Geography, such were not found in some institutions. Reports to parents on learners' performance were significant documents kept in the teachers' files, in general. Other critical documents the researcher went through and wrote notes on were teacher and learner journals on the subject of Geography. The teachers kept data journals on classroom activities and policy directions on the teaching and learning of the subject. For learner journals, information on homework, learners' daily thoughts/experiences on Geography in the classroom were provided. Furthermore, teacher journals contained the professional reflections on practice, regarding teachers' feelings on practice and their observations on learners' experiences with Geography concepts.

Classroom journals provided information on learners' experiences, which bore learners' thoughts, ideas and perceptions of Geography learning (Mertler, 2009:107-113).

### **3.7 SUMMARY OF CHAPTER**

The researcher realised the purpose for consulting the literature through which the required specific data were gathered in terms of the barriers under investigation. This chapter used the relevant literature to outline in depth the research methodology process. The research paradigm, the research design, the research instruments are commented on in detail. The manifestation of the knowledge gained from the consulted scholars' works will become clear in Chapter 4, in which the results of the study were scientifically gathered, analysed, interpreted and presented.

## CHAPTER 4

### DATA ANALYSIS AND INTERPRETATION

#### 4.1. INTRODUCTION

The focus of this chapter is on, firstly, examining in detail how the *Barriers to geography learning and teaching in grade 12 in the Limpopo Province* were investigated. Secondly, it analyses the data, whereby the existence, prevalence and consequences of the barriers regarding the performance of the grade 12 learners driven by the subject teachers' teaching are revealed. The findings were obtained by scoring the responses of the respective respondents to the specific questions, focusing on the respective barriers/objectives under investigation. Thirdly, the scores of the participants need to be interpreted in terms of their correlations to equivalent questions – as well as the contrasts to corresponding questions across the spectrum of the set diagnostic questionnaires addressing the questions of the study. The purpose of the scoring of the responses is to verify the significance level of the link between the objectives of the study and the barriers under investigation (Henning, Van Rensburg & Smit, 2004:103).

The four barriers investigated were:

- Teacher's proficiency in English as a language of instruction,
- Teacher's proficiency in the content/geography,
- Level of difficulty of English in textbooks for second-language learners, and
- The use of code-switching from the language of learning and teaching (LoLT) into the vernacular languages.

The four barriers were underpinned by four objectives. learners responded to Objectives 2, 3 and 4, which had a particular bearing on their learning of Geography in terms of the difficulty of the language of Geography, as well as the second language, as the medium of instruction. The teachers responded to Objectives 1, 3 and 4. These objectives were Geography-specific; because they probed their professional proficiency in teaching Geography. Each objective was underpinned by its respective statements; and the responses were reflected in respective figures for analysis and interpretation.

The researcher analysed and interpreted the data, on the basis of the responses yielded by the respective respondents. In the analysis of the data, the researcher investigated the specific responses to specific statements, which were related to the pertinent surveyed literature. The purpose for surveying the literature on the study question was to verify the respective statement(s) underpinning the relevant barrier/objectives. Each objective was addressed by a varied number of statements – specifically probing a particular barrier.

The four barriers focused on were addressed as follows:

For the first barrier, in-depth inquiring questions were directed to the participants, probing their experiences and feelings about the impact that the difficult textbooks had on the second-language (English) learners. This was in terms of the suitability of the textbooks to the learners and the readability of the textbooks by the learners. For the second barrier, the focus of the pertinent questions was specifically on the language of learning and teaching (LoLT). The LoLT manifested in the reading of the textbooks, the reading of resource sheets, the reading of library books, the reading of the work sheets, and the use of LoLT in written work with comprehension and insight of learners of geography.

The subject teacher always used the LoLT to describe, explain, instruct, and ask questions, to which learners responded verbally in English. Therefore, the objective of LoLT also featured in learners reasoning in the language of geography in this context. The learners needed to develop in their use and understanding of geographical terms, in order to positively influence their learning. Furthermore, the Geography teachers used English to encourage and motivate the learners to learn maximally; and they also used English to discipline the learners, so that they could perform well in the subject – to attain the vision and mission of learning and teaching. That is, the skills of listening, talking, reading, and writing were vital for classroom activities. As such, the attainment thereof was critical to the learners.

For the third barrier, the researcher enquired into the question of their professional proficiency in terms of Geography and English, as the subject and the LoLT. In pursuit of professional proficiency, the researcher earmarked the perusal of pertinent handy documents expected for use by the subject teacher to complement the tool already administered in collecting the data. The

perusal of work-books and portfolios was to ensure that all the relevant documents, programmes, the curriculum of Geography, the governing principles, the directives driving departmental policies and the procedures pertaining to content dispensations were observed and applied accurately by the subject teachers.

For the fourth barrier, the practice of code-switching from English into the local African languages in the Geography learning and teaching environments was examined. The examination was through the employment of the semi-structured interviews with exclusive subject-teacher interviewees, together with the curriculum advisors (CAs). The researcher sought to interview these subject specialists particularly for their expertise. The purpose was to determine and verify the prevalence of code-switching, as already outlined in the preceding chapters.

The researcher applied those multiple methods to interact with the teachers; because they were the significant role-players in the teaching of the learners. The researcher also wanted to tap the reader's memory in tracking the researcher's framework of this study, which was mapped in Chapters 1 and 3 of the study. The adoption of the constructivist approach was specifically for its focus on the learner as the central figure in learning and teaching. This focus manifested in the fact that Geography, being one of the geo-sciences, involves many practical lessons in which learners were to be engaged. That needed skills of expert teachers to teach and supervise as learners were engaged in practical activities.

The purpose of the practical lessons was to demystify the impact of theoretical teaching and learning in Geography that compounded the fear of abstract concepts to learners. The practical application of reality should solidify the learner's experience of concrete reality (Watkins, 2012:24-25; Van Schie, 2012:12).

The researcher's justification for choosing the constructivist approach in probing the problem was based on the principle of learners taking the centre-stage in the learning situation. Therefore, in administering the tools for gathering the data on the problem, the researcher encompassed broad core expectations. The probe was whether the learner respondents were made to understand geographical processes through undertaking scientific investigations into facts and phenomena in their learning environments through the use of the LoLT; whether they were actively engaged in doing the learning of Geographical facts/reality; whether they had acquired

the conceptual skills to grow their personal experiences and mental connections, additional to their previously acquired mental connections to broaden their geographical knowledge; whether they had grown first-hand conceptualized knowledge to apply in their assessments; and whether they were exposed to their immediate world to learn concrete reality (Van Schie, 2012:12; Sawyer, 2006:38-39; Watkins, 2012:25-25).

Prior to analysing and interpreting the responses of the respondents to diagnose and verify the threats to learning and teaching Geography, the researcher thought it worthwhile to reconcile learner and teacher participants' respective responses to the same barriers, together with the interviewees' responses. The researcher interviewed (n=10) subject teachers and (n=2) curriculum advisors (CAs) from two (2) districts of the five (5) districts in the province. The interviews took place with the selected teachers after the researcher had observed *in situ* the teaching and learning activities of the respective prepared lessons on their specific topics. The researcher summarized the focus of the investigation, as ranging from the practice of non-subject team teaching, non-exposure of the learners to practical opportunities (landforms and landscapes), a culture of using one or a few textbooks, a culture of neglect or compromise of the prescribed sections of the Geography curriculum, as a manifestation of professional incompetence, and finally the practice of code-switching from the LoLT into the local African languages because of the teachers' lack of linguistic competence in the LoLT.

Having profiled the type of data the researcher anticipated to be underpinning the objective of the study, and underpinning the existence of the barriers, the researcher arranged pertinent tables and respective charts on each item of the respective questionnaires on the study problem, which addressed the specific objectives, according to the four objectives of the study.

## **4.2 THE RESEARCH FINDINGS**

### **4.2.1 Introduction**

The purpose of seeking information on Section A of the questionnaire varied. Firstly, it was a matter of principle to number information in terms of the biographical data, in order to maintain the logical sequence of the facts, which were considered critical in terms of determining their contributory effect/value to the barriers to the research question under investigation. The biographical data differed in value and weight from one another. The biographical data ranged

from gender to teaching experience and qualifications, as regards the relevant subject teachers. Finally, all the biographical information was presented in a tabular form; it was allocated a table number, followed by its chart number. Both representations communicated the data intelligibly in terms of how the data represent the facts.

From the biographical data, the researcher started making use of charts only, which elucidated the respective statements discerning specific barriers and their reference to the respective objective. The researcher's analysis and interpretation of each chart led to drawing inferences or deducing a logical conclusion in terms of the barrier through the lens of the research problem/inquiry.

The researcher's premise for conducting interviews with Geography subject practitioners was centred on the four objectives of this research under investigation. The objectives central to the research problem focused on the teachers' professionalism regarding his/her proficiency in Geography, the impact that the LoLT had on the second-language learners in terms of the difficulty of the language of teaching and learning (English), the difficulty of the prescribed and selected textbooks for learners to use – in terms of the level of the language to the level of the learners' linguistics as second-language speakers; and lastly, the impact of code-switching from English to the LoLT in the African languages..

In order to elucidate the objectives in terms of their prevalence and impact on the performance of learners (in Geography in grade 12 classes in the Limpopo Province), the researcher addressed each specific objective in the entire research process. The reason was to verify the validity of the existence and the impact of the profiled barriers to Geography learning and teaching in grade 12 classes in the province. The researcher selected the very significant and weighty questionnaire items, in order to identify them with the objectives underpinned by the barriers/factors, which have been under scrutiny in the research. The pertinent questionnaire items, with respective responses, were statistically analysed to depict the accurate valid results in terms of the specific objectives in the problem of the study.

In the view of the researcher, every depicted result was critically analysed; as it would impact immeasurably on the future livelihood and wellbeing of the grade 12 Geography learners in the province. The researcher considered, or had the expectation, that every learner would benefit

from learning Geography maximally. The researcher's consideration of the premise was viewed as the core business and mandate of the Department of Education (DoE) and the parents.

The researcher focused on the respective objectives in their chronological order. Objective 1 centred specifically on the factor of proficiency in terms of the Geography subject teachers responsible for teaching grade 12 learners/classes in the Limpopo Province. The proficiency factors were measured by the respective tools, whereby the academic and professional determinants/factors to good learner performance were measured. In terms of objective 1, in-depth analysis revealed the subtle factors implied in the percentages of the respondents' scores to the specific practices and perceptions peculiar to teaching.

### 4.3 BIOGRAPHICAL DATA

#### 4.3.1 Biographical data of the learners

**Table 4.1: Gender**

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Male	198	48.6	48.6	48.6
Female	209	51.4	51.4	100.0
Total	407	100.0	100.0	

**Figure 4.1: Gender**

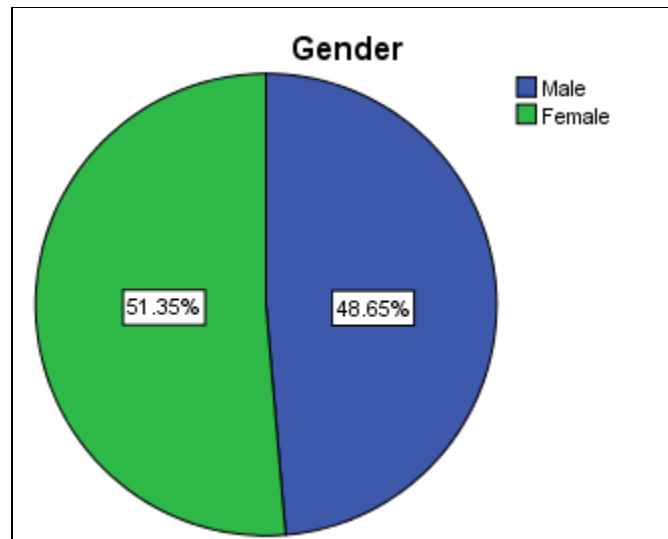


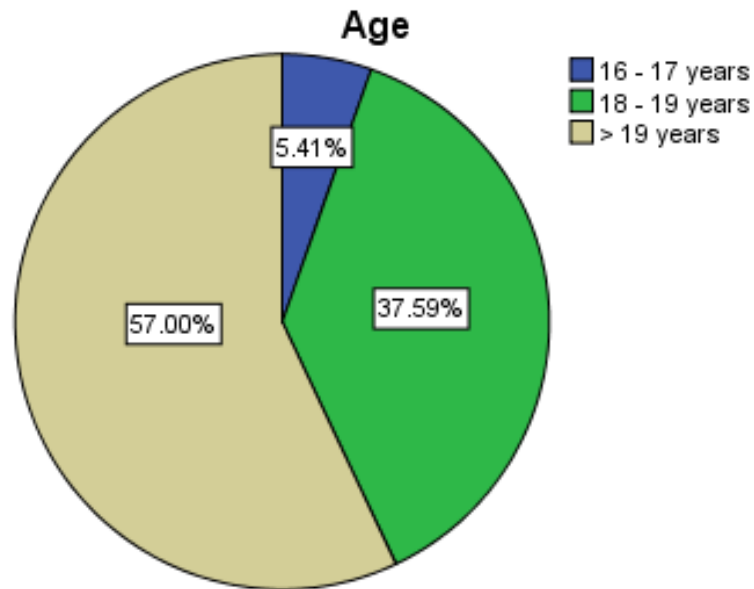
Table 4.1 and its equivalent Pie Chart 4.1 provided information on the learners' gender in terms of the respective numbers. The provided data had no research impact at that level, except to indicate that a total of 407 learners of both females and males had responded to the item.

#### **4.3.2 Learner's Age**

**Table 4.2: Age**

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
16 - 17 years	22	5.4	5.4	5.4
18 - 19 years	153	37.6	37.6	43.0
> 19 years	232	57.0	57.0	100.0
Total	407	100.0	100.0	

**Figure 4.2: Age**



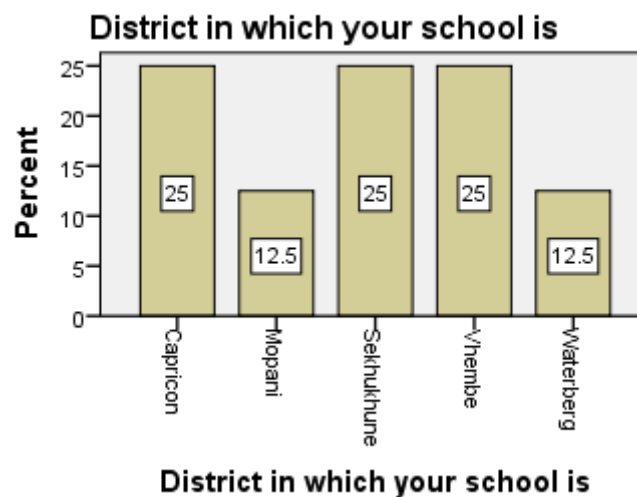
For both Table 4.2 and the Pie Chart 4.2 might have had a bearing on the part of the subject teachers' (geography) proficiency in terms of the geography learning effect. One would have argued that the only frequency indicating that there was only one learner of 21 years of age would be considered as a consequential factor on performance.

### 4.3.3 Data for schools/teachers

**Table 4.3: District of schools**

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Capricorn	4	25.0	25.0	25.0
Mopani	2	12.5	12.5	37.5
Sekhukhune	4	25.0	25.0	62.5
Vhembe	4	25.0	25.0	87.5
Waterberg	2	12.5	12.5	100.0
Total	16	100.0	100.0	

**Figure 4.3: District of schools**



The implication of the situation of the schools will be examined in the light of Pie/Bar Chart 4.10 amongst teachers.

#### 4.4 TEACHER QUALIFICATIONS

**Table 4.4 – Qualifications**

**Highest educational qualifications**

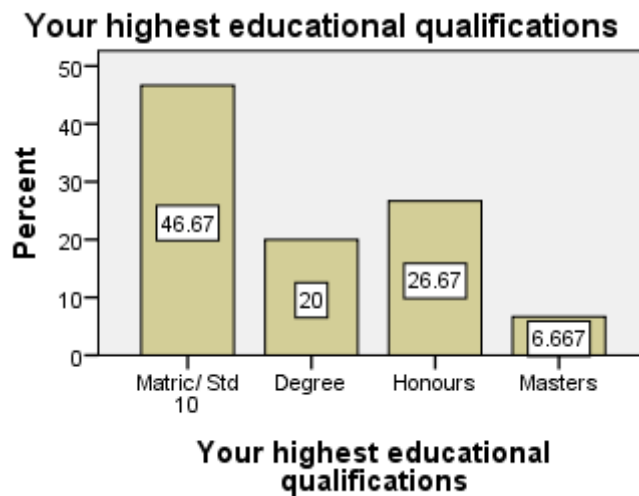
	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Matric/ Std 10	7	43.8	46.7	46.7
Degree	3	18.8	20.0	66.7
Honours	4	25.0	26.7	93.3
Masters	1	6.3	6.7	100.0
Total	15	93.8	100.0	

Meaningful learning and effective teaching in Geography are governed by teacher expertise in the content/Geography and the second language (English), which is the medium of instruction. Dale, Ferguson and Robin (1988:23-24) maintain that a teacher who does not command an adequate knowledge of Geography – and how to teach it – becomes a barrier to the learners' learning of the subject (geography). The teacher becomes a hindrance to the learners' growth in the subject. Naish (1992:177) focuses on the lack of expertise of the teacher in terms of failing to handle Geography textbooks for the benefit of the learners for whom the books were intended. Turner-Bisset (2001:147) feels that Geography teachers who are not knowledgeable of Geography must surely fail to impart knowledge.

Turner-Bisset (2001:147) asserts that the command of literacy and numeracy strategies bring about effective teaching in Geography across the prescribed sections of the syllabus. According to Cotton (1995:80-87), teachers are trained to remove or minimise learning barriers for learners through effective teaching methods. However, Howell and Lazarus (2003:5) identify content or curriculum as “... the most significant barrier to learning is [the] curriculum itself ... this includes: What is taught; the language/medium of instruction ...”

Butt (2002:200) holds a similar view, by proclaiming that “language provides the medium for learning Geography in every classroom; and it should, therefore, be a major consideration in the planning and preparation of lessons”. The quotes by Howell and Lazarus (2003:5) and Butt (2002:200) bear evidence that the Geography teachers themselves can be barriers to learners. They (the teachers) can form insurmountable barriers in terms of their lack of knowledge of the content, as well as their lack of the command of the language of instruction, with regard to second-language learners. The literature quoted above formed the premise upon which Table 4.4 Figures 4.4, 4.5 and 4.6 were analysed.

**Figure 4.4 Highest educational qualification**

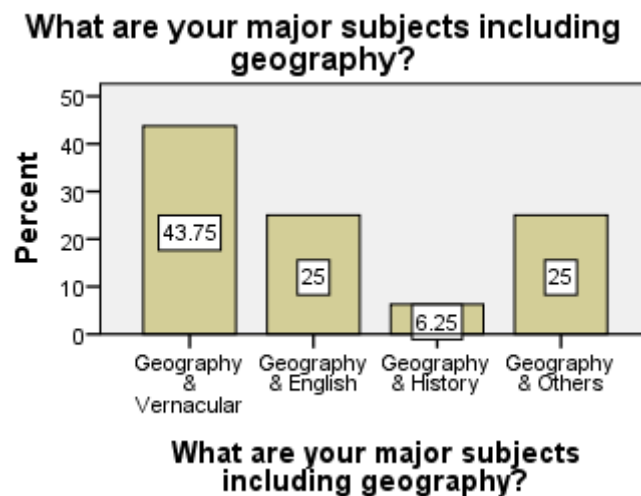


The given table and chart provide critical information regarding the under-qualification and the absence of any adequate qualification of the Geography teachers. The fact that 7 of the 15 (16-1) teachers had matric/ grade 10 (43.8%) evoked a concern that there were many subject teachers who were not qualified in Geography. This did not bode well for the competency levels in

Geography teaching and learning. This was further worsened by one dissenter who did not provide the necessary data requested. Nevertheless, four frequencies for Honours and one for a Master’s degree served as an encouragement in terms of the qualifications of Geography teachers and the potential of this to boost good performance in the subject.

#### 4.4.1 Major Subjects

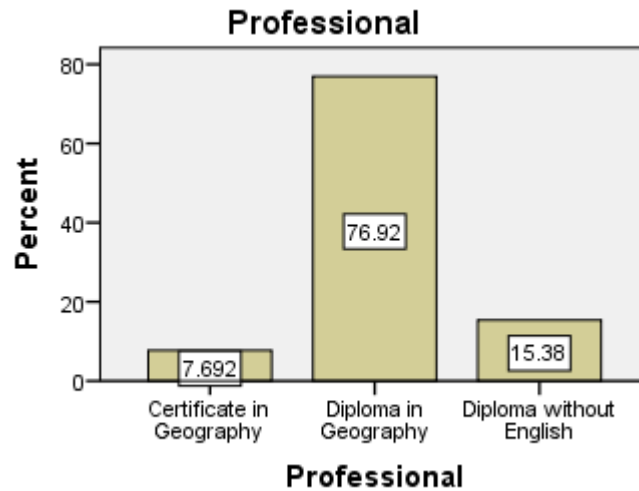
**Figure 4.5 Major Subjects**



The researcher wanted to establish whether the subject teachers had competency/proficiency in Geography. Proficiency translated to the teacher having a certificate in Geography and English, respectively; a Diploma in geography; a Diploma in English; a Diploma without geography and English, respectively. The data were gathered in this manner, so that they would be barrier-specific with respect to the necessary qualifications, as they are depicted under 4.5.1 - 4.5.6 below.

The actual gathered data indicated that seven teachers (43.8%) had geography plus African languages; four teachers (25%) had geography and English; one teacher (6.3%) was qualified in Geography and History; and lastly, four teachers (25%) were qualified in Geography and other subjects. This meant that only four teachers had a good combination of Geography and English. The rest had irrelevant combinations with respect to the teaching and learning of Geography. And these issues are discussed under 4.5.1 - 4.5.6 below.

**Figure 4.6 Professional Proficiency**



Initially the researcher wanted to know the combinations of specific major subjects: Geography + African languages; Geography + English; Geography + maths; Geography + others; and non-geographical qualifications. The same qualifications mentioned above would apply to expected certificates in Chart 4.5. The researcher had expectations that this would assist subject teachers to effect good performance in learners, or the converse. The actual yielded responses by the teacher respondents in terms of administered statements were registered as follows:

Only one teacher (7.692%) held a professional Geography certificate; ten teachers (76.92%) had a diploma in Geography; two teachers (15.38%) had a diploma without English. This was a stark contrast; in that there was no mention of a combination of Geography and English, Geography and maths; or non-geography combinations. The implications of this are reflected in Chart 4.6; and these would be consequential to teaching and learning Geography. It may be concluded that subject teachers without essential combinations of Geography plus English, Geography and maths; and teachers without Geography at all; or without Geography with African languages would impact seriously on learners' performance in Geography. Such teachers could create serious problems for learners; because of their lack of effectiveness and proficiency in their teaching. The latter qualification shortcomings would be manifested in the deliberations on the specific objectives under 4.5 below.

## **Professional Proficiency**

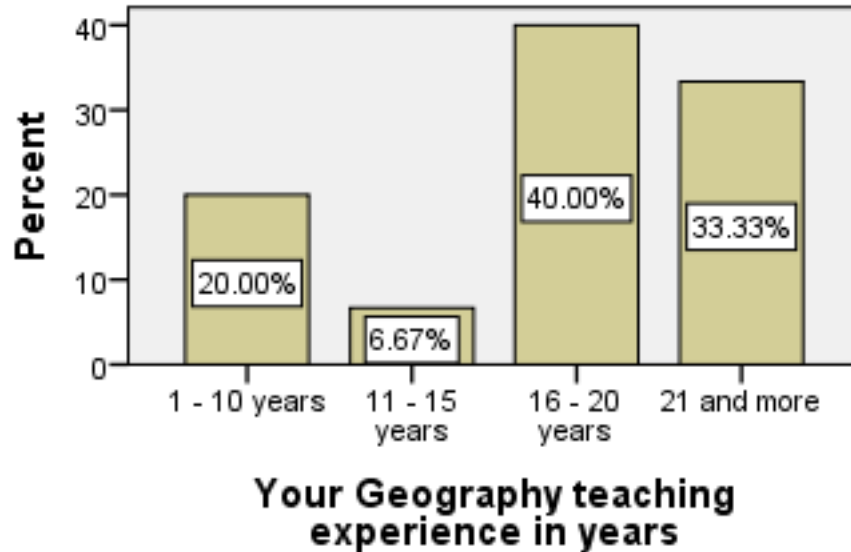
Figures 4.4, 4.5 and 4.6 refer to this issue.

The researcher deduced from Table 4.4 and Figure 4.4 critical information, which implied that some teachers were under-qualified or unqualified for offering Geography to the learners. This evidence was deduced from the data on the major subject combinations, and in terms of knowledge-based profession, would impact negatively on second-language learners' performance in Geography (Turner-Bisset, 2001:147).

According to Van Rooyen (1990:105), attested by Bloch (2009:90-91), highest qualifications and major subjects enhance one's professional proficiency, which influences second-language learners' performance. The researcher probed professional proficiency with the objective of establishing the effectiveness of the combination of Geography and English. According to Serrao (2010:6) and Setati (2011:11), a combination of Geography and maths would promote learners' performance in literacy and numeracy. Statements 1 to 4 and Figures 4.16 to 4.19 bear evidence to this effect. The evidence deduced from Figure 4.6 was contrary to the views held by Van Rooyen (1990:105), Setati (2011:11) and Bloch (2009:90-91).

In reconciling the claim by the researcher, based on the evidence highlighted from the data in Figure 4.6, the Geography and vernacular combination had far-reaching teaching and learning consequences for Geography learners.

**Figure 4.7 Teaching Experience**



Their teaching experience was depicted as follows:

Three teachers (20%) had 1-10 years' experience; one teacher (6.67%) had 11-15 years' experience; six teachers (40%) had 16-20 years' experience; while five teachers (33.33%) had 21 and more years of teaching experience. The professional implications that can be drawn from this picture would imply that in view of the lack of qualifications and under-qualifications of the teachers informed by Charts 4.4 and 4.5, this would impact on their learners in terms of optimal learning.

The concept of teaching experience was viewed as a critical factor by the researcher, based on the views of Howell and Lazarus (2003:5). Howell and Lazarus (2003:5) assert that experience is very consequential to teaching and learning; because it minimises or removes barriers to learning, especially those linked with a second-language as the medium of instruction. This is interlaced with lesson organisation and management, methods selection for teaching and selection of learning materials, and the assessment of learning. Sibanyoni (2009:3) confirms the views of Howell and Lazarus (2003) that a command of the content competencies by the content/Geography teacher, interlaced with personal experience in the content enhances learners'

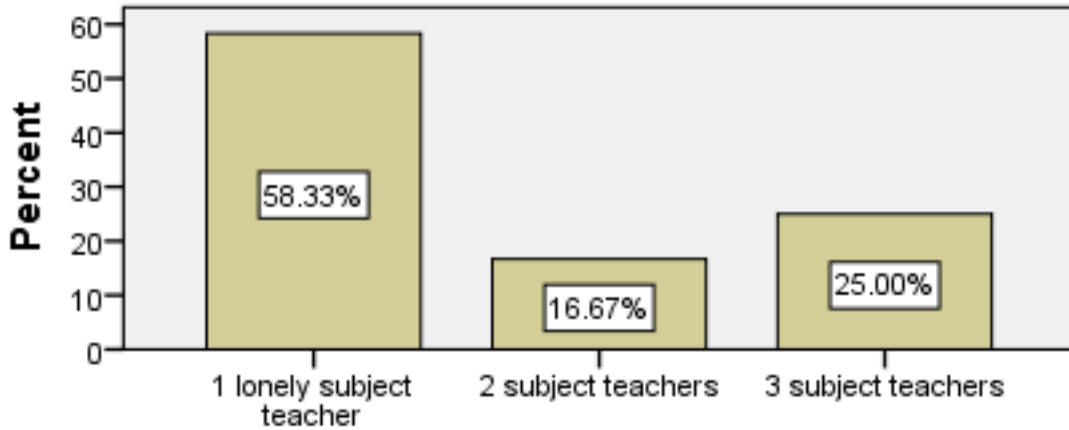
performance. Butt (2002:201) also agrees with Howell and Lazarus (2003); and Butt says that the proficient and efficient Geography teacher successfully directs learners' talking, writing and reading in Geography in the second language.

'Talking in geography' means the learner can communicate in complex geographical terms in class. The teacher's experience in Geography can remove any existing barriers in Geography; because the learners are in command of Geography-specific concepts/literacy. The geographical literacy and mathematical literacy/skills are sorely needed in the teaching and learning of map-work. The teacher's command of literacy skills was probed under Objective 1 regarding the Geography teacher's professional proficiency.

Bloch (2009:90-91) advises that teachers' effectiveness and efficiency enhances performance in curriculum but this is not related exclusively to teaching experience. Bloch (2009) says performance in curriculum is affected by poor geography knowledge, ineffective teaching practice, insufficient training the teacher has had, and little performance evaluation. Therefore, it could not be deduced from the data on experience that performance could be ensured by many years of experience, as explained by Bloch (2009:90-91).

**Figure 4.8 Staffing**

**Number of Geography Teachers**



**Size of your person power i.e the number of teachers, including yourself, who comprise the curriculum team responsible for grade 12 Geography class(es)**

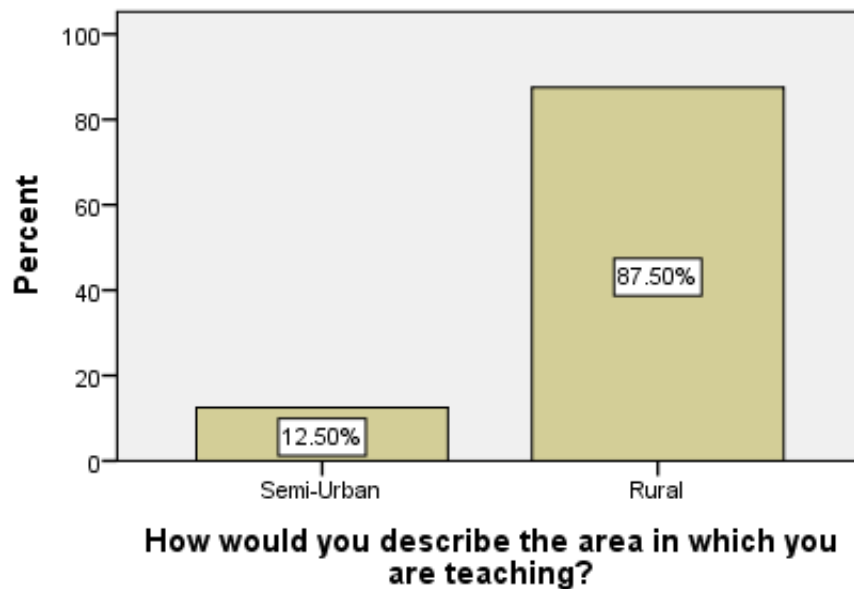
The staffing was described as follows:

There were seven teachers (58.33%) who indicated that they were solitary subject teachers at their schools. The implications in such a scenario would mean that such teachers could not cater for all the sections of the prescribed curriculum. The issue of textbooks will be dealt with under Objectives 1, 2 and 3 of the study – with presupposed implications for Objective 4. The second scenario presented a fair practice at some schools. Two teachers (16.67%) share the various sections of the curriculum. The implications would be beneficial for both the teachers and learners; because teachers would have better chances of selecting sections of the curriculum in which they are more effective. Lastly, three teachers (25%) shared the subject; the implication is that this would assist in producing good performance of teachers in the classroom.

The concept of staffing is considered critical by Skehan (2005:31), and by Uline, Johnson et al. (2005:44-52). They advise school managers to create support structures for curriculum teachers. They recommend school-based instruction for colleagues in a curriculum to help one another with their specific curriculum challenges that need specific expertise to improve their performance. Uline, Johnson et al. (2005:4) advocate collective staff development to enable professional teaching to take effect across the curricula. The collective staff development approach would help the staff to grow to accomplish the vision and mission statement of the school, resulting in the production of knowledgeable citizens in Geography.

Bloch (2009:11) maintains that professional development is ensured by the effective evaluation of all the curriculum areas. Collective teacher development, in terms of the curriculum areas, should address the teacher's lack of knowledge in some sections of the Geography curriculum. Geography is characterised by specialised sections, which need specialised teachers to handle them; map-work is a case in point. The concept of staffing was examined under Objective 1, which probed the teacher's professional proficiency in the teaching and learning of map-work.

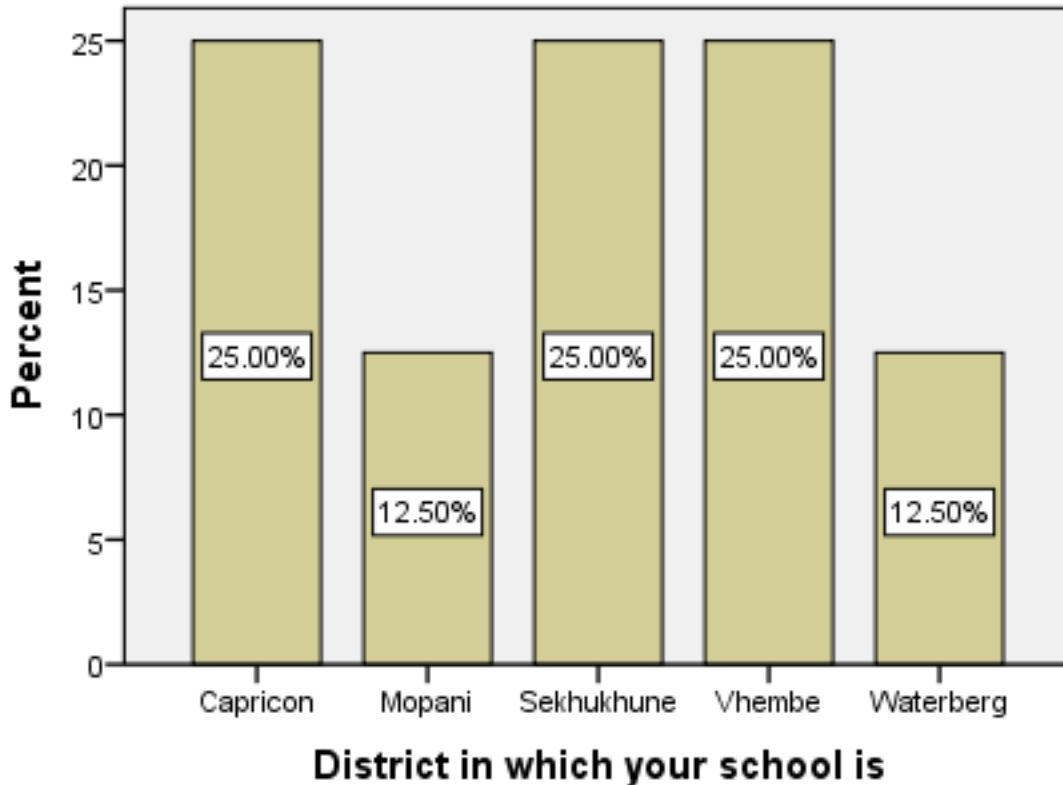
**Figure 4.9 Area in which you are teaching**



This statement was allocated four rating scales, namely, urban, semi-urban, rural and semi-rural. However, only the semi-urban and the rural scales were chosen with two teachers (12.5%) and fourteen teachers (87.5%), respectively. Upon interpreting the values, the researcher considers the question of rurality, as a major contributing factor to the learners' learning. The learners' learning in rural areas is always affected significantly in terms of their linguistic level development as second-language learners (English). Their learning of geography would be impacted by the rivalry of the home languages that would preoccupy their cognition as a principle of psychological premise. In most cases, the learners' social background would not be conducive for effective learning in the LoLT. This is due to the lack of development opportunities for the LoLT.

The families are generally poor in terms of affording technological facilities and literature provisioning to enrich the learners with vocabulary acquisition in the LoLT. Over and above this, the scarcity of the learning material level of illiteracy in parents compounds the problem. The underlying factor on the part of parents would be their failure to guide and develop literacy in their children.

**Figure 4.10 District in which your school is situated**



Firstly, Chart 4.10 above reconciles with Chart 4.3. Secondly, Chart 4.10 and Chart 4.9 are linked with each other; as they indicate that many of the districts are found situated in rural areas. The implications thereof have already been pointed out. The concept of ‘learner situatedness’ has been central in the educating of the learner; as the learner is viewed as inseparable from the environment. It would mean that a conducive environment benefits learners. On the contrary, a non-conducive learning environment yields negative results in the learners.

#### **4.5 TEACHER PERFORMANCE**

The researcher has a considered view that a Geography subject teacher would be influenced by many aspects in terms of professionalism. The aspects concerned were: Academic qualifications, which embraced professional proficiency; major subjects interlaced with the respective LoLT; teaching experience; curricular staffing; and school area (location). These educational aspects were deliberated on in Charts 4.4, 4.5, 4.6, 4.7, 4.8, 4.9 and 4.10. The deliberations could be

consolidated by the fact that for curricular teachers to be effective and efficient in teaching, they should command specific-curricular discipline at all times and in all situations. From this premise, the researcher analyses logically both teacher and learner respondents in terms of how they reacted to the administered statements addressing the individual Objectives 1, 2, 3 and 4. The respondents' responses indicate the possible effects of teacher performance on the learners' performance in Geography in the province.

At this juncture, the researcher examines teacher and learner performance at three-year intervals (with the exception of 2011) from 1999-2011.

#### 4.5.1 Teacher Performance 1999-2001

**Figure 4.11 Teacher Performance from 1999-2001**

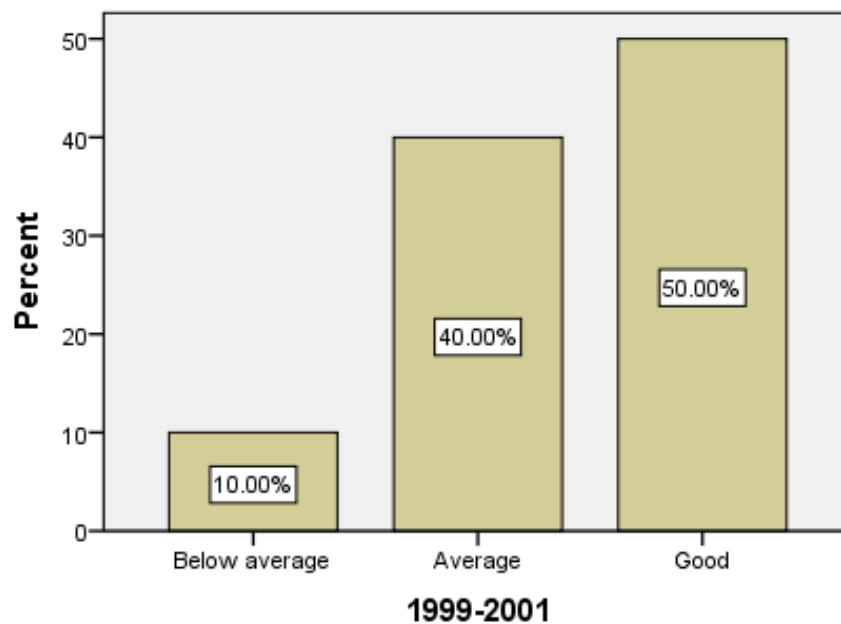


Chart 4.11 reflects the following data:

It should be pointed out that the initial rubric for assessing the performance had a five-point rating scale, which comprised: Poor, below average, average, good, and excellent.

The performance indicated below used only below average, average and good rating scales. One teacher (10%) performed below average; four teachers (40%) performed at average levels; while

five teachers (50%) indicated a good level of performance; but six teachers did not complete the questionnaire. Looking at the difference between the average and the good performance, there is a 10% difference. This margin was narrow, thereby implying that the performance in broader terms was average. There were six abstentions, which could have been either poor or excellent. This implies that the demonstrated performance was concentrated in the middle of the rating scales, thereby implying average performance.

#### 4.5.2 Teacher performance 2002-2004

**Figure 4.12 Teacher Performance from 2002-2004**

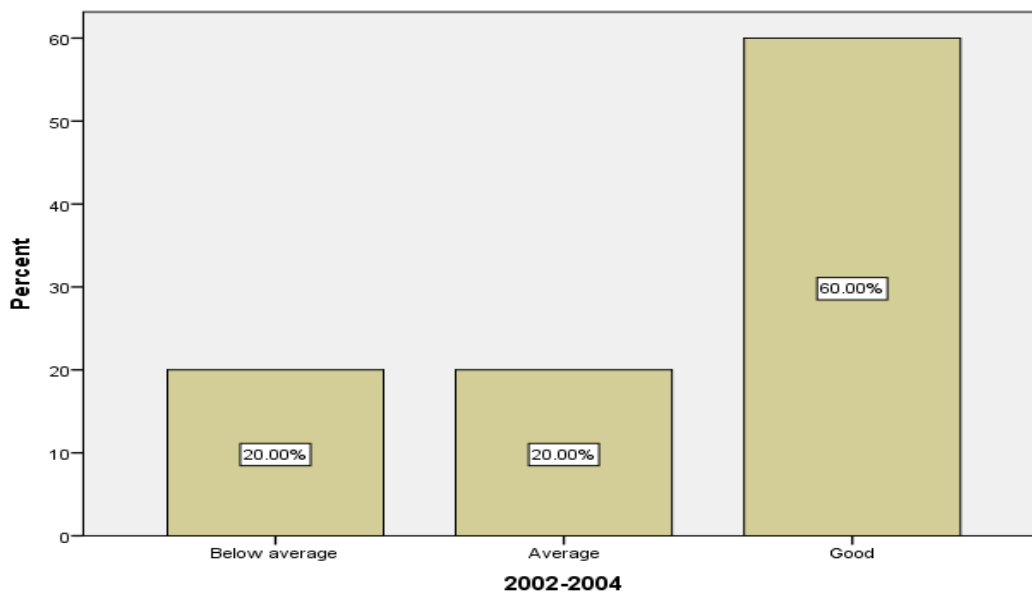
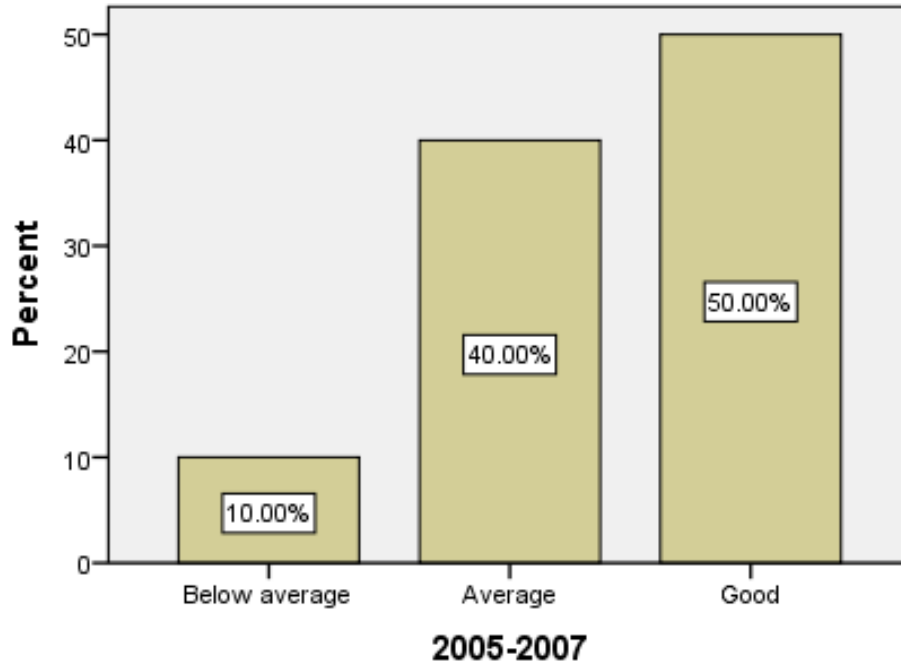


Chart 4.12 had the same format of rating scales as that in Chart 4.11. Two teachers (20%) performance was below average; two teachers (20%) performed average; six teachers (60%) performed well. The extreme rating scales of poor and excellent had no scores; but six teachers abstained for reasons unknown to the researcher. The researcher would not pre-empt any implications on the effect of this. However, a combination of below average and average performance did not augur well for a provincial performance bracket/category in terms of quality results. On the other hand, good performance by the given number of teachers was considered a minimal requirement by the researcher in view of the learner population in the province.

### 4.5.3 Teacher performance 2005-2007

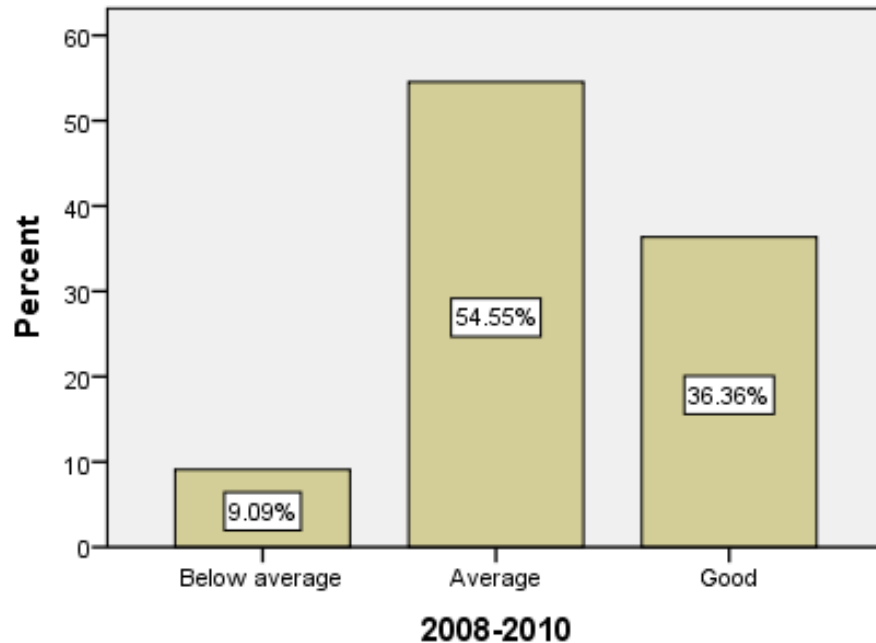
Figure 4.13 Teacher Performance from 2005-2007



The performance scores depicted in Charts 4.10 and 4.11 repeated themselves for the 2005-2007 cycles, with some horizontal shifts in the existing/prevalent rating scales. Only one teacher (10%) performed below average; four teachers (40%) performed average; and five teachers (50%) showed good performance. Six did not respond. From the researcher's viewpoint, the implications were that the prevalent scenario continued during the period under review. This did not have any positive implications in terms of the learners' educational welfare.

#### 4.5.4 Teachers Performance 2008-2010

Figure 4.14 Teacher Performance from 2008-2010



The picture shows a decline in performance, as can be seen in Chart 4.14 above. One teacher (9.09%) performed below average; six teachers (54.55%) performed average; four teachers (36.36%) had a good performance. Again, it was difficult to trace in which category any one of the five teachers who abstained from scoring fell. A similar scenario was found for the previous cycles. The researcher could not allocate them with certainty to any of the three other categories. Therefore, the implications would be that there had been a decline in performance, thereby implying a mediocre performance by the subject teachers.

#### 4.5.5 Teacher Performance 2011

Figure 4.15 Teacher Performance 2011

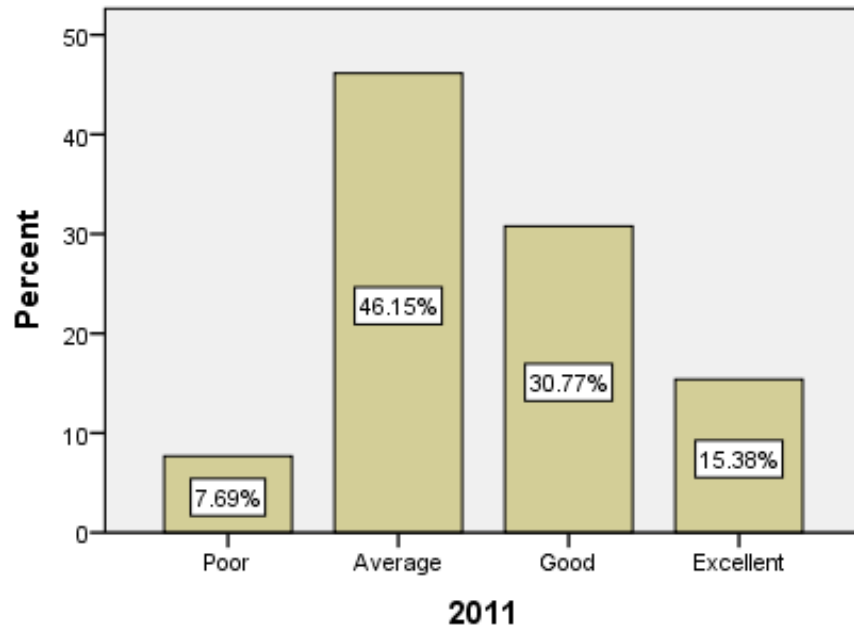


Chart 4.15 showed a more comprehensive reflection of the categories on the rating scale compared to all the other charts in this category. It covered the poor, the average, the good and the excellent rating scales. One teacher (7.692%) indicated poor performance; six teachers (14.65%) had average performance; four teachers (30.77%) had a good performance; and two teachers (15.38%) had excellent performance; however, three teachers abstained from the rating-selection process. For the first time, the chart reflected some performance in the excellent category. This is usually a normal principle of a professional performance spread norm. The implication of the spread norm augured well for learner performance in a normal learner/teacher community set up in terms of professional weaknesses and strengths.

#### **4.6 FINDINGS FROM THE TEACHER QUESTIONNAIRE**

The constructed teacher questionnaire was intended to gather the data from Geography subject teachers to determine how the subject was taught to learners. The questionnaire consisted of statements with the particular purpose to address the specific objectives underpinning specific barriers. The barriers were investigated as being contributory to the poor performance of grade 12 learners in the province during the period under review. The responses to statements evinced findings emanating from the specific barriers to reconcile them with their objectives. The responses either agreed or disagreed with the statement(s), and were situated on a four-point Likert scale. The responses to the statement were expressed in rating scales ranging through strongly disagree and disagree, to strongly agree and agree.

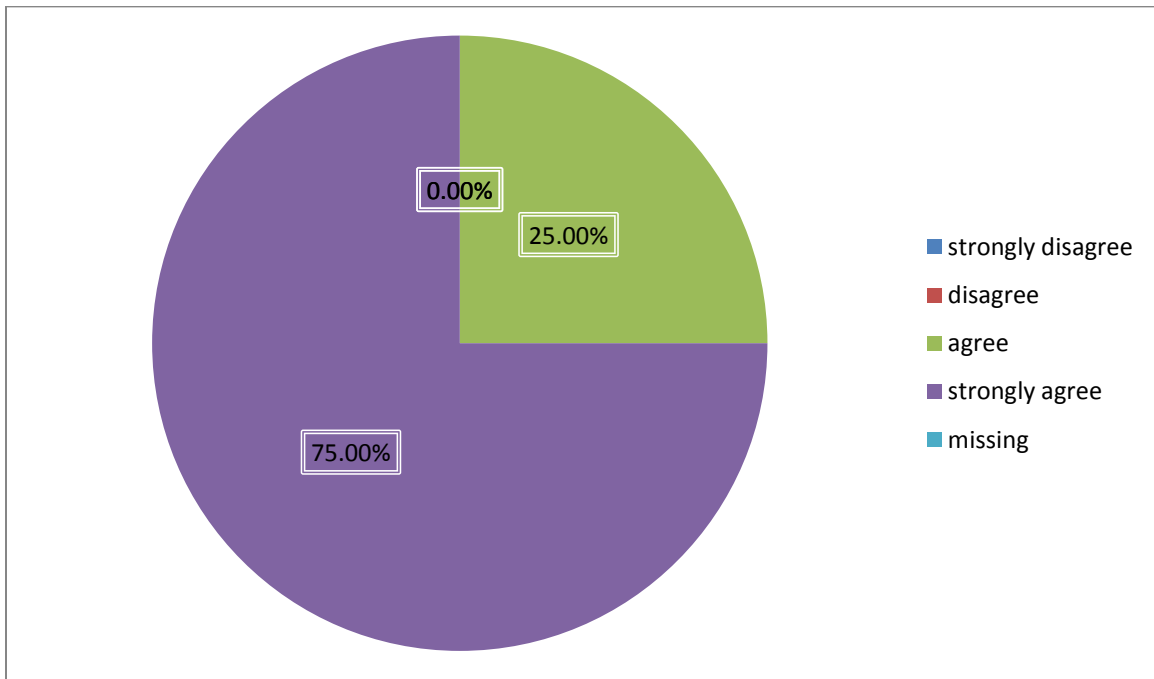
The three Objectives 1, 3 and 4 were addressed by the teacher respondents, together with the learner respondents. The latter took part in addressing Objectives 2, 3 and 4. The statements were presented in respective charts, where their values were depicted as percentages. The researcher unpacked the values in terms of the respective implications to the performance of the learners in Geography. Finally, the teachers' attitudes reflected in the values on the statements would inform the reader of the effectiveness and the efficiency of subject teachers' teaching, or of the converse. Collectively, these findings would reflect the implications on the learners' performance in Geography. Lastly, each objective underpinning their respective barriers was analysed. The same procedure was adopted with the learners, with regard to Objectives 2, 3 and 4, in order to ascertain the effect of the barriers on the performance of the learners in Geography.

#### 4.6.1 Findings from teacher questionnaire statements on Objective 1

##### Statement 1:

Teaching synoptic weather maps increases learners' understanding of the weather forecasting.

**Figure 4.16 Teaching synoptic weather maps**



The respondents responses were 75% for strongly agree, and 25% for agree. Both positive responses mean that all the teachers in the study knew the significance of the knowledge of synoptic weather maps and its teaching to the learners. The implications would be that the learners would acquire the knowledge and respond in a practical way to such teaching. Firstly, the learners could choose suitable attire for school, based on their interpretation of the weather forecast. Secondly, the learners would be on the alert to confront or avoid unfavourable weather conditions during their daily travel; since such unfavourable weather conditions could compromise their road safety.

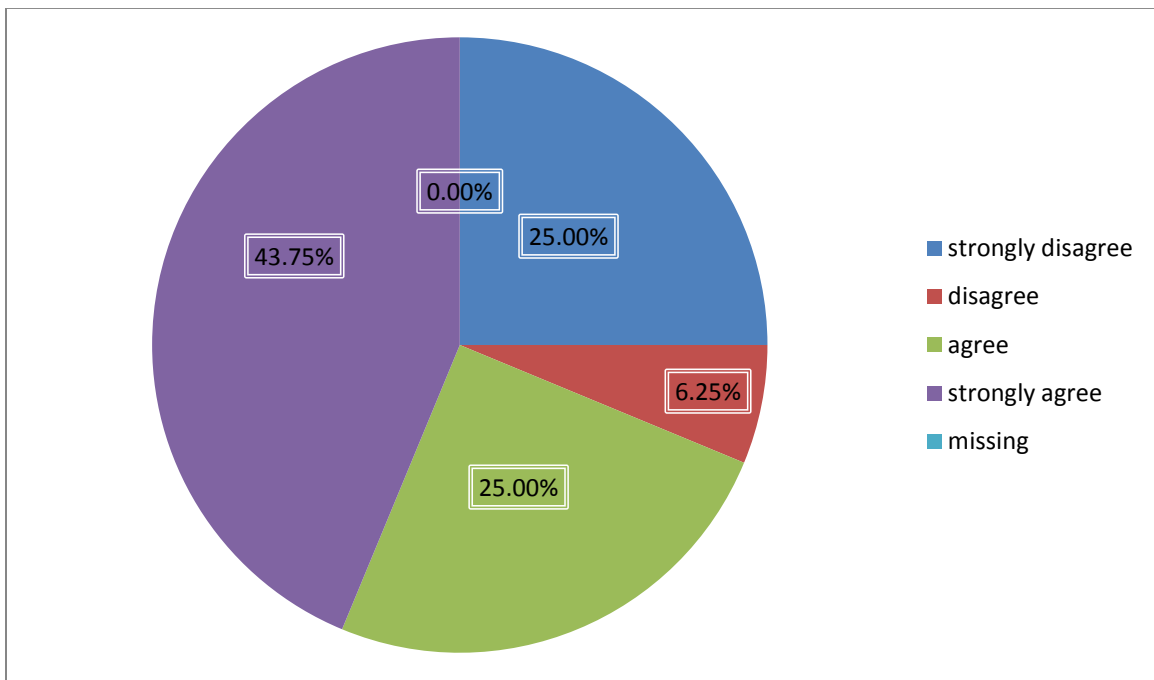
This could also be relevant to other daily travel activities, such as flights – where safety is of paramount importance. On the question of map-work teaching, Tshibalo and Schulze (2000:230)

advocate co-operative and experiential learning methods/activities. The significance of the co-operative and experiential learning approach is that it benefits the learners; because they articulate the facts at a peer level in a simple way.

**Statement 2:**

Compromising map-work teaching deprives learners of vital knowledge of their environment or of the world.

**Figure 4.17 Knowledge of the environment**



The responses on the value scale in Chart 4.17 tilted in favour of the statement, with 25% of the respondents indicating agree, and 43.75% strongly agree. On the other side of the scale, 25% of the respondents favoured strongly disagree, while 6.25% disagreed. The implications of this wide range of responses are that generally, there is a neglect of map-work teaching at some stage. The consequences thereof would be that learners would perform poorly in examinations. The long-term implications would be that the learners would be disadvantaged in their choice of careers, for example in fields such as meteorology.

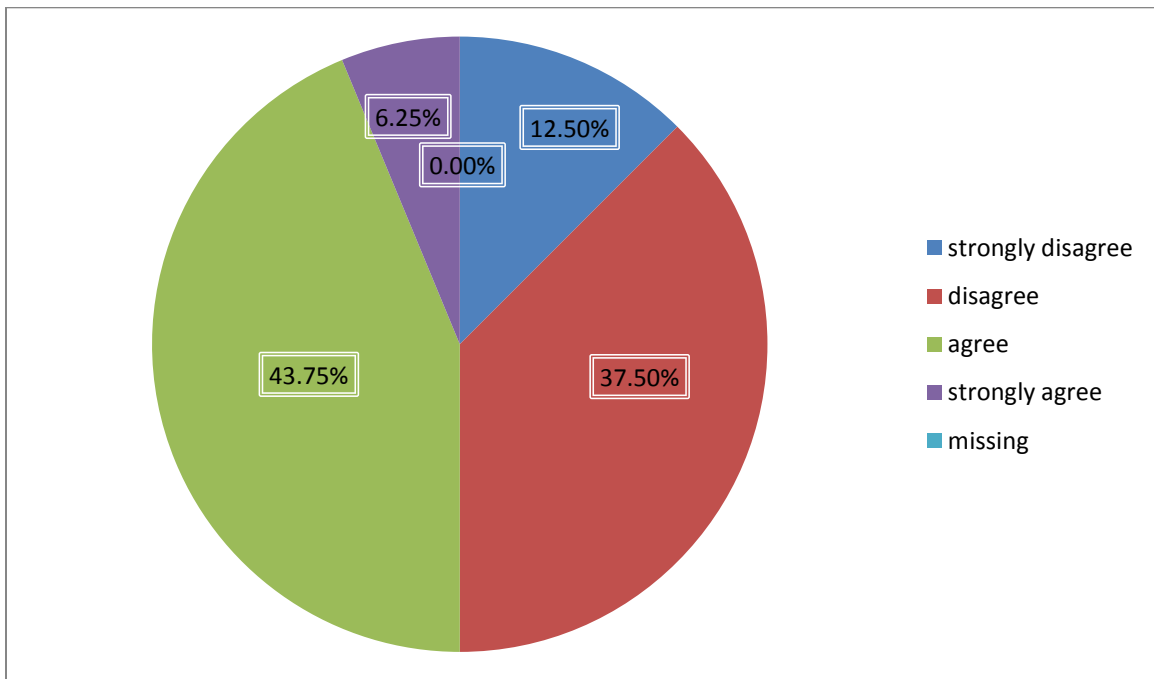
Any deviation from the educational obligation by some subject teachers was viewed by the researcher as a professional fraud. The researcher views and considers every learner to be deserving of quality teaching and learning, in order to attain self-sufficiency in their future life and careers. Therefore, the value of map-work was viewed by the researcher as a tool to liberate learners from perpetual ignorance of their immediate world and its reality.

Baldstone (2000:114-115) and Kelly (2011:2) maintain that learning is an enquiring activity/process, whereby learners engage actively in the learning content. The end of the process results in learners' construction of their own knowledge about their world of existence. The constructed knowledge helps the learners to co-exist with the environment, and to sustain their relationship with the world.

**Statement 3:**

I have sectional challenges in realizing learners' expectations for learning Geography.

**Figure 4.18 Sectional challenges of the teacher**



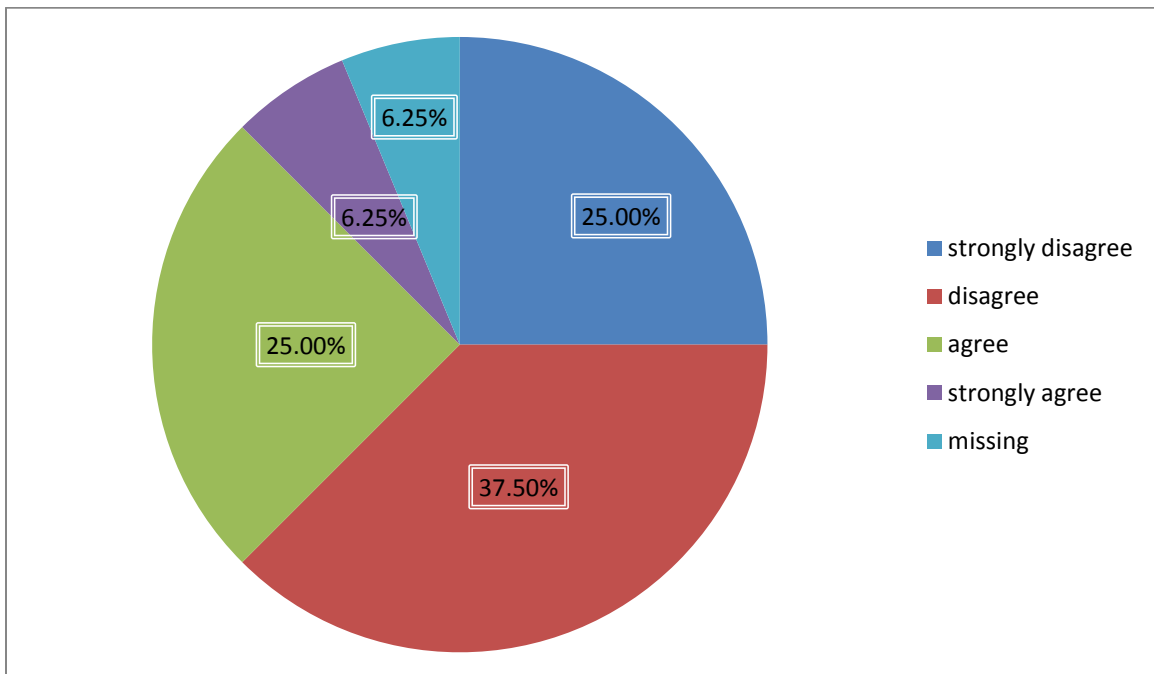
The Chart 4.18 revealed a challenging 50/50 scenario, which suggested two divergent consequential educational results for the learners of Geography. The reader would expect a competent teacher to teach learners to optimize their knowledge of Geography. The 12.50% and 37.50% agreement demonstrated the argument above. However, a 43.75% and 6.25% agreement representation of the teachers conceded that they could not meet the sectional requirement of their syllabus, as mandated by the Department of Education (DoE). The implications would be that many learners of Geography entrusted to such teachers and schools would be doomed to failure. It provides evidence that some school managers and head teachers had limitations in their vision of teaching and learning (Johnson & Uline, 2005:45-51).

Half of the teacher respondents conceded they had challenges with sections of the curriculum of Geography. This confirms the assertions of Bloch (2009:11) and Uline, Johnson *et al.* (eds.) (2005:4).

**Statement 4:**

I teach my learners about landscapes, according to the textbook.

**Figure 4.19 Teaching Landscapes**



It must be emphasized that Geography is one of those practical subjects, whose learners need exposure to practical aspects, in order to practise it. Any deviation from the set principle would spell disastrous results to the learners. Two issues are pertinent here: the first is the importance of accurate facts in relation to landscapes; the second is the practical purposes of teaching landscapes, that is, learners must be able to identify them in reality. This implies that this teaching needs to be followed by practical activities.

For this statement, four teachers (25%) went for strongly disagree; six teachers (37.5%) indicated disagree. Four teachers (25%) agreed; and one teacher (6.25%) strongly agreed. The responses provided for this statement implied that for strong disagree (SD) and disagree (D) values, teachers did practical work with their learners. For the agree (A) and strongly agree (SA) values, the teachers taught the learners theoretically. The latter response implies a violation of practical teaching and learning of landscapes, which should be observed outside the classroom in terms of the real phenomena. In view of theoretical teaching and learning activities, the researcher concludes that the teachers in question were ignorant of the significance of teaching on physical landscapes to illustrate this geographical phenomenon.

It was argued at the outset that the study was framed on the theory of constructivism. It is based on learners learning by exposure to reality. Learners would be able to conceive of how phenomena existed in reality – only by exposure to such phenomena. It is the job of the Geography teacher to create learning experiences that promote exposure and discussion on scientific construction in relation to the geographical areas. In this way, learners would be able to learn about features in their natural forms or constructed forms, e.g. tunnels, roads and dams in mountainous areas. It is the exposure of learners to these scenarios that would involve mathematical calculations and measurements, in which they could apply, analyse and interpret reality – through their acquired scientific skills.

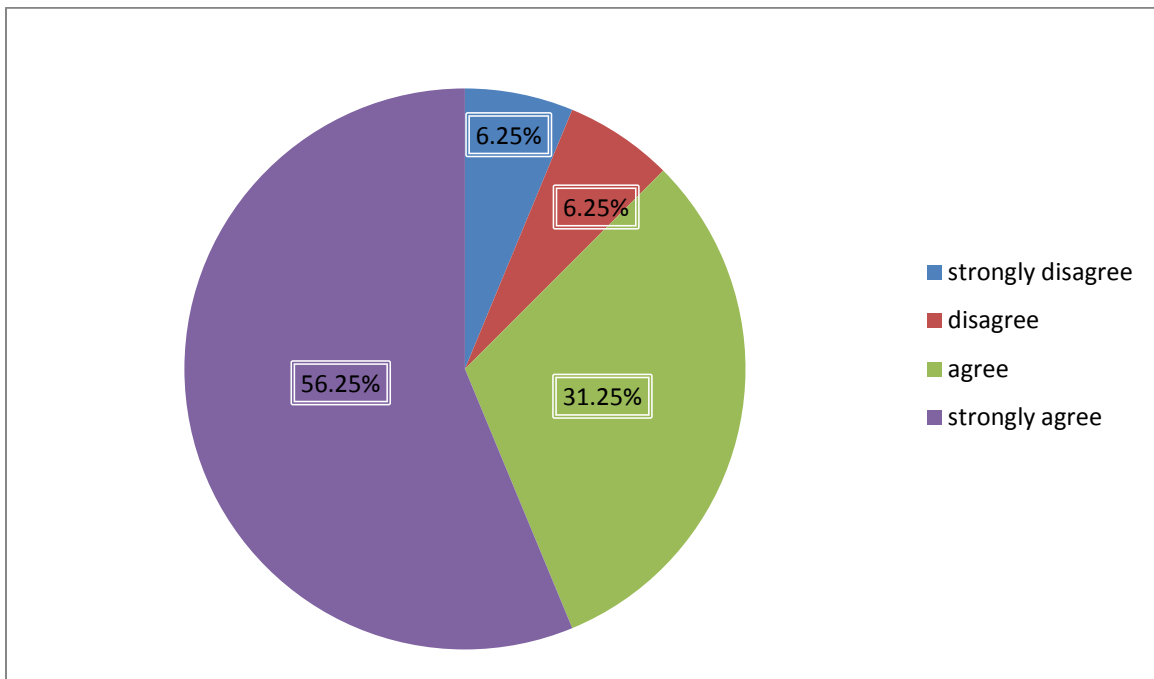
The researcher's view is that it is at this level that the learners can understand, explain scales and distance, measure distances on a map, calculate travelling distances and times, measure altitudes and calculate gradients (Burton & Pitt, 2000:6).

The interpretation of the data from this figure was based on the constructivist approach held by Skehan (1999:246). Skehan (1999) says that by using the constructivist approach, a geography learner constructs knowledge in a broader spectrum. The learner communicates and shares this knowledge with other learners meaningfully. Beets and Le Grange (2005) claim that learners interact practically with the relevant phenomena in their learning environment, as thinkers and constructors of meaning and knowledge.

**Statement 5:**

I prefer practical teaching to theory, when it comes to capturing rivers.

**Figure 4.20 Practical teaching versus theory for river capture**



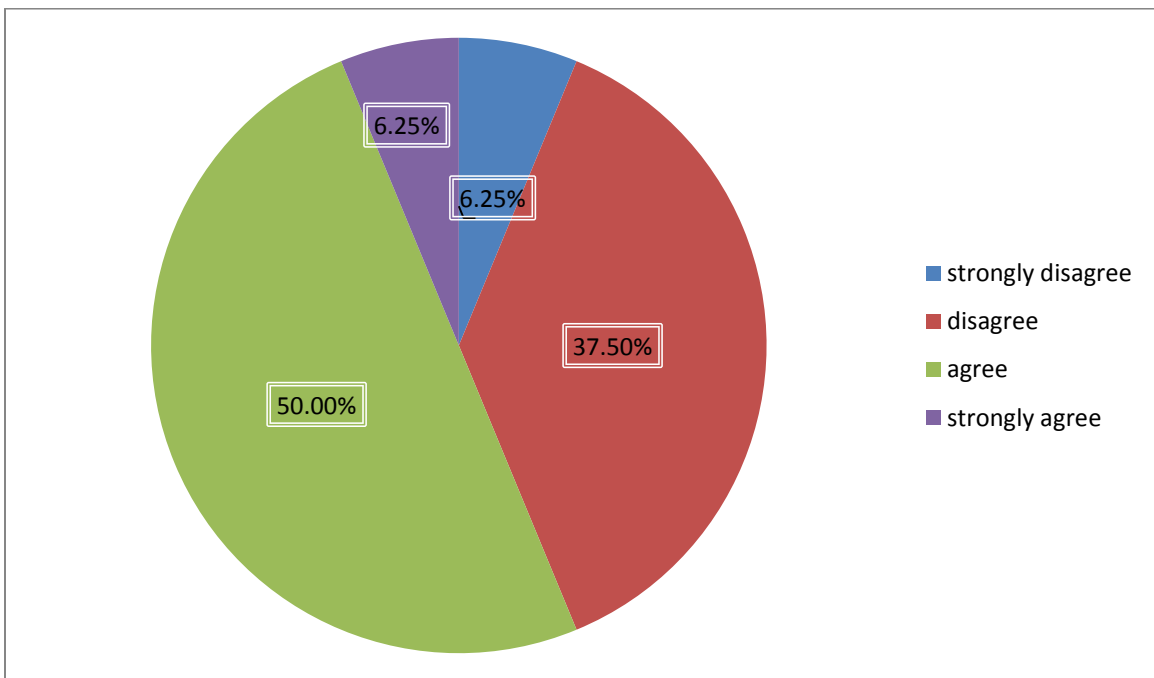
The overwhelming positive response affirms the statement. The affirmation was quantified as five teachers (31.25%) for agree, nine teachers (56.25%) for strongly agree; while only one teacher (6.25%) was for strongly disagree; and one teacher (6.25%) disagreed. The researcher would argue that 6.25% for strongly disagree (SD) and disagree (D) respectively posed a serious concern; since many learners were denied good opportunities to learn the subject.

The figure was interpreted based on the constructivist approach held by Brown (2000:266-267) that says learners are enquirers and seekers of knowledge in their learning; that means that they probe the data from their learning environment to broaden their knowledge about their environment. Davis and Davis (2000) maintain that the learners interact with ideas through the process of mental language development for content (geography) interpretation and analysis. In learning Geography practically, learners develop their meta-cognitive language, which is the active language of the curriculum (David & Reed, 2003:101-112).

**Statement 6:**

Our learners are given assignments on the compilation of geographical terminology.

**Figure 4.21 Compilation of geographical terminologies**



For this statement, the researcher noted that the varied responses had critical implications. One of the teachers (6.25%) for strongly disagreed (SD); and six teachers (37.5%) for disagree (D) rejected the statement. On the other hand, eight teachers (50%) agreed (A); and one teacher (6.25%) for strongly agreed (SA), thereby confirmed the statement. The contrast constituted by strongly disagree (SD) and disagree (D) against agree (A) and strongly agree (SA) posed a

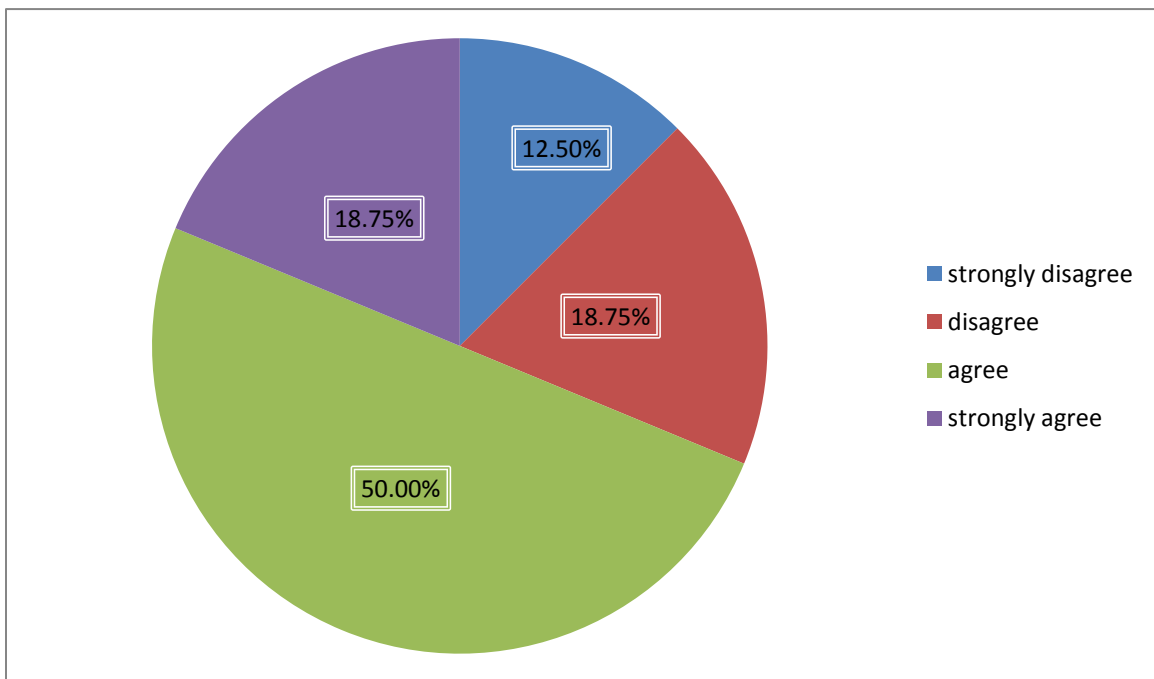
concern for the researcher. This meant that the subject teachers comprising 43.75% of the total sample did not expose their learners to project exercises. It did not matter to them that their learners should acquire and command a geographical vocabulary that was needed in the teaching and learning of the subject. This deprives learners of independent learning opportunities. The learners would face challenges in interpreting case studies, in which geographical terms are used.

Figure 4.21 was based on the concepts of conceptualisation and contextualisation held by Skehan (1999:246), which underpinned the constructivist approach. David and Reed (2003:101-112) encourage Geography teachers to engage their learners actively in the language of the curriculum (meta-language). The aim is to grow learner's geographical vocabulary to be able to articulate their ideas and experiences in their learning environment.

**Statement 7:**

We take our learners out of the classroom to conduct practical work on pollution.

**Figure 4.22 Practical work on pollution**



The contrary teacher attitudes and practices to the statement above imply critical outcomes to the future of the learners. The opposing attitudes and practices manifested as follows: Two of the

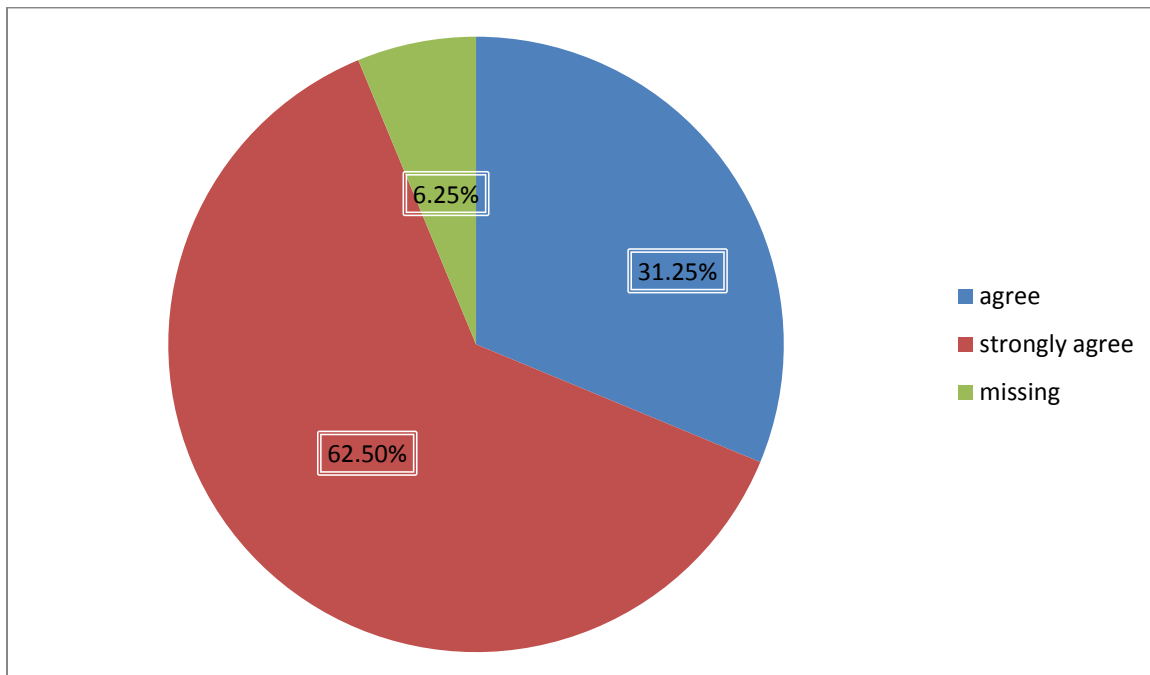
teachers (12.50%) strongly disagreed (SD); three teachers (18.75%) disagreed (D). Their combined percentage (31.25%) had implications for the learners' performance; since learners would be deprived of knowledge of their immediate surroundings from a health point of view. This deprivation would affect their realization of the vision of the learning statement that all learners should learn geographical concepts and skills necessary to sustain their mutual relationship with the environment. As such, the implications would be that the environment would become vulnerable to learner polluters; and the accumulated litter would threaten the quality of water and food production from their immediate environments. However, the rest of the responses contained positive teacher attitudes and practices, with a combination of 68.75% who agreed and strongly agreed. This would benefit the learners; since the teachers would encourage the learners to acquire knowledge of their local environment, from which they would benefit throughout their lives.

The responses to the statement were deliberated on from the perspectives of Baldstone (2000:114-115) and Phyed, Robinson and Levin (2010:68), which advocate enquiry-based learning. This approach enables learners to construct meaning from the content. The acquired knowledge would be transferred or applied to obtaining learning situations through learning skills. Kruger and Adam (1998:154) talk of metacognition that manifests in the learner by demonstrating an ability to construct their own learning activity and succeeding in tackling tasks in the learning environment.

**Statement 8:**

We/I orient the learners to doing tasks on measurements and the calculation of distances on maps

**Figure 4.23 Orientation to doing tasks on measurements and distance calculation on maps**



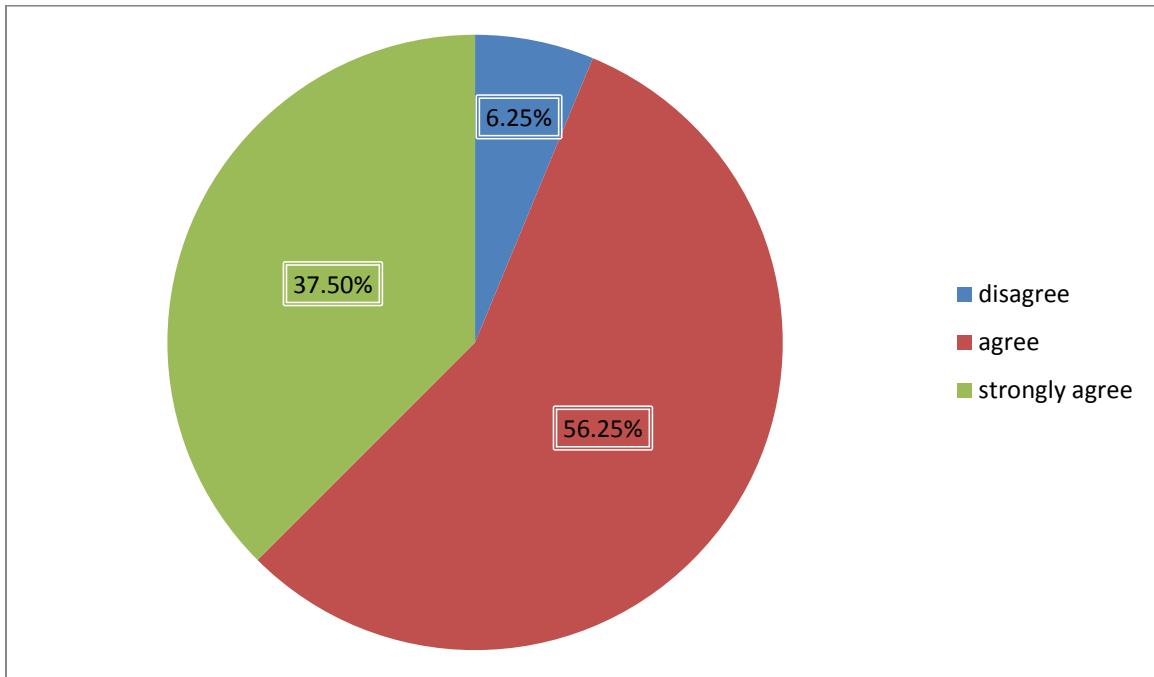
For this statement, five teachers (31.25%) agreed and ten teachers (62.50%) strongly agreed. The responses affirmed the statement. This implies that the Geography subject teachers had a vision to grow knowledge in their learners regarding map-work. Such knowledge acquisition was critical to learners regarding their future geography-related careers, such as meteorology, piloting ship, transport logistics, and more.

Views on map-work held by Butt (2002:16-17) are that maps and photographs pose perceptual and conceptual challenges for learners. The reason for posing challenges is because of their complex nature. For learners to comprehend maps and photographs, they should command artistic, appreciative, observational, interpretative, quantitative and application skills. In order to grow those skills in the learners, the Geography teacher should be competent in map-teaching.

**Statement 9:**

My learners are grouped to do assignments on how to be ozone-friendly.

**Figure 4.24 Assignments on ozone-friendly**



According to the responses, one teacher (6.25%) disagreed (D); while nine teachers (56.25%) and six teachers (37.50%) agreed (A) and strongly agreed (SA) respectively, thereby confirming the statement. The implication for the respondents who agreed was that they were caring for the atmosphere and learning about pollutants that might harm the ozone layer. As a matter of principle, human beings need to support the prevention of damage to the ozone layer; as this can pose a threat to our very existence as a species. The converse implication is that, by not giving group tasks/assignments, some teachers do not cater for co-operative learning in their Geography classes. The learners in such a classroom are deprived of sharing ideas and skills that are manifested in team work and team teaching.

Furthermore, the significance of co-operative learning enhances the growth of learners in social relationships; that is, learners should grow towards one another a mutual understanding, the spirit of tolerance, peer respect, assertive attitudes, the cultivation of compromising attitudes and the acceptance of individual character differences. Such holistic development of learners alluded to

above would mould learners into indispensable citizens in their respective careers, where they would be able to serve their respective communities meaningfully.

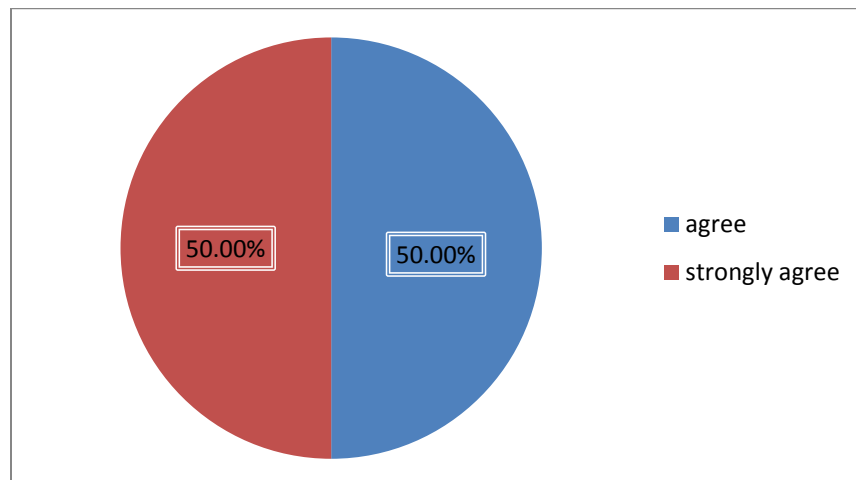
The statement is constructivist-oriented; since it enhances co-operative and experiential learning. The statement was framed, in accordance with the advocacy of Tshibalo and Schulze (2000:230) for co-operative learning as an instructional method, whereby learners can work together under the teachers' facilitation. Moreno (2010:298) says the experiential approach caters for individual learners, whereby they are equally granted opportunity, space and time to learn to maximise their learning without restraint. The constructivist approach enriches/grows in the learners' multiple abilities to perform tasks such as to predict answers to states of affairs, organise plans/projects to curb dangers to natural resources; and to acquire knowledge skills, such as translation, synthesis, deliberating, interpretation, and extrapolation skills (Tierney, Readence & Dishner, 1995:374-396).

These skills would be needed by learners, in order to relate in a mutual way with their environment.

**Statement 10:**

Learners must be provided with skills to read temperature fluctuations.

**Figure 4.25 Skills to read temperature fluctuations**



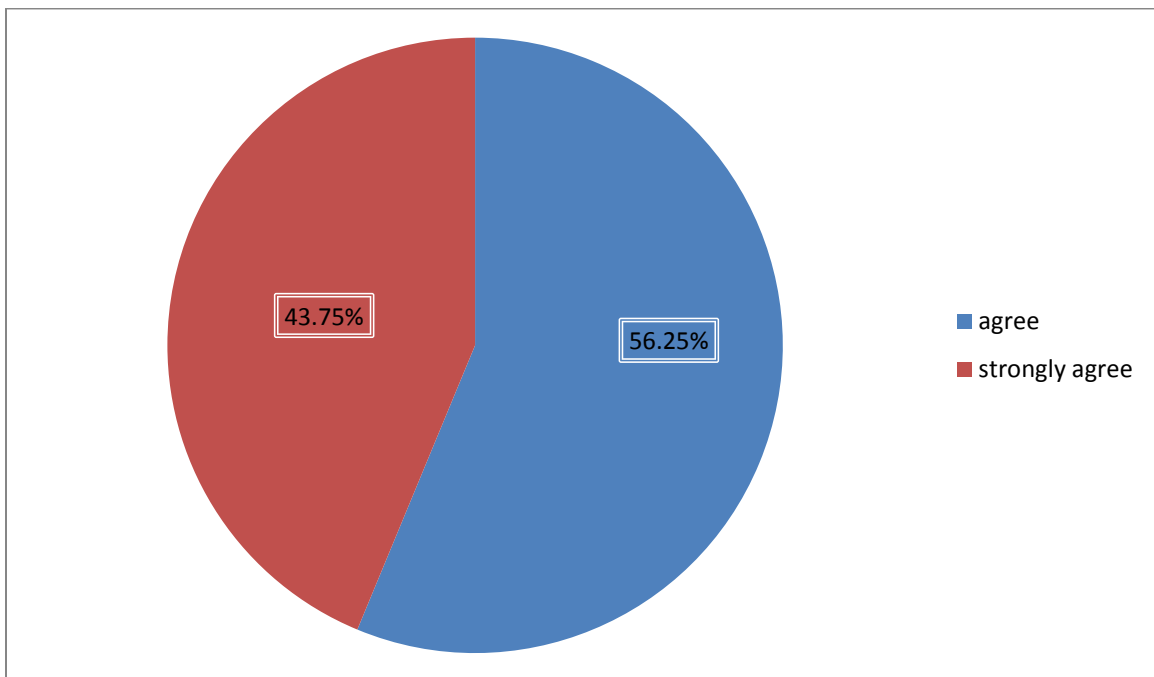
The responses for this statement were: Eight teachers (50%) agreed (A), and eight teachers (50%) strongly agreed (SA). The implications of the results were that teachers recognize the importance of dispensing geographical skills to their learners. It would mean that the Geography subject teachers are aware that their learners would need to employ these skills in future careers in different fields, such as agriculture, weather services, tourism, and more.

According to Butt (2002:16-17), there are specialised functions of maps: For example, weather maps, which function for specific purposes, such as the impact of temperature fluctuations. The temperature fluctuations can alert car owners about the hail that might hit their area; it could affect a person selling ice cream on the street corner; rain/weather could affect the sales of a car wash business; the lack of, or too much, rain can affect farmers in terms of their crops. Temperatures have an impact on tourism; people travel to places in travel-friendly weather conditions, e.g. people do not travel to the east in November/December – for fear of tornados.

**Statement 11:**

Our learners study geography to be environmentally compliant/friendly.

**Figure 4.26 Learners study Geography to be environmentally compliant/friendly**



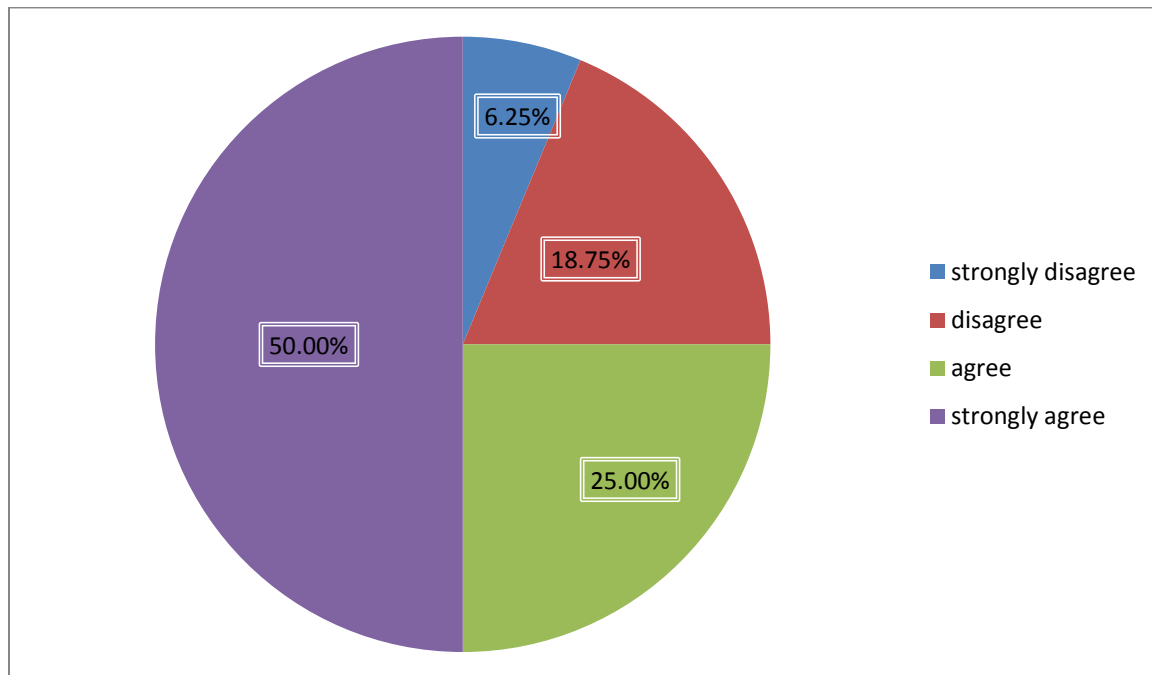
The respondents responded in the following manner: nine teachers (56.25%) agreed (A); while seven teachers (43.75%) strongly agreed (SA). This implies that all the sampled Geography subject teachers knew what they were mandated to teach their learners to perform, according to the expectations of the curriculum. The subject teachers were aware that their teaching should promote knowledge of the environment, in which their learners live. The wellbeing of the environment would sustain the learners' lives by providing quality water and a balanced atmosphere. That balanced atmosphere and quality water would yield good crops and livestock for their nutrition, in order to sustain their lives.

Sawyer (2006:319) says that Geography teachers should engage their learners in active construction to promote learners learning opportunities in real-life situations and challenges. Sawyer (2006:319) goes on to say that teaching and learning in Geography must be practice-based or practice-oriented. The Geography curriculum is environment-based from the physical, social, cultural, economic, political, ecological perspectives. The learners' connection with their environment is the prime objective for learning geography; so that they would be able to develop a caring attitude to the immediate world. They should value their immediate environment by conserving it and keeping it clean.

**Statement 12:**

I prefer teaching using local map to foreign ones.

**Figure 4.27 Teaching using local maps**



Prior to interpreting and analysing Figure 4.27, it was deemed necessary to look into the constructivist approach in terms of practical teaching and the learning of maps. Kent and Smith (ed), (2002:128-130) advocate engagement in deeper fieldwork in map-teaching and learning. The purpose is to enrich and grow learners' abilities in geographical scientific investigation. The acquisition of these abilities is to ensure the attainment of their career paths. The first-hand knowledge and skills gained would enable learners to answer, interpret, extrapolate the results, and synthesise the data analytically.

For this statement, one teacher (6.25%) strongly disagreed (SD), three teachers (18.75%) disagreed (D), four teachers (25%) agreed (A), and eight teachers (50%) strongly agreed (SA). The researcher noted the contrasting views held by Geography-subject teachers; although the

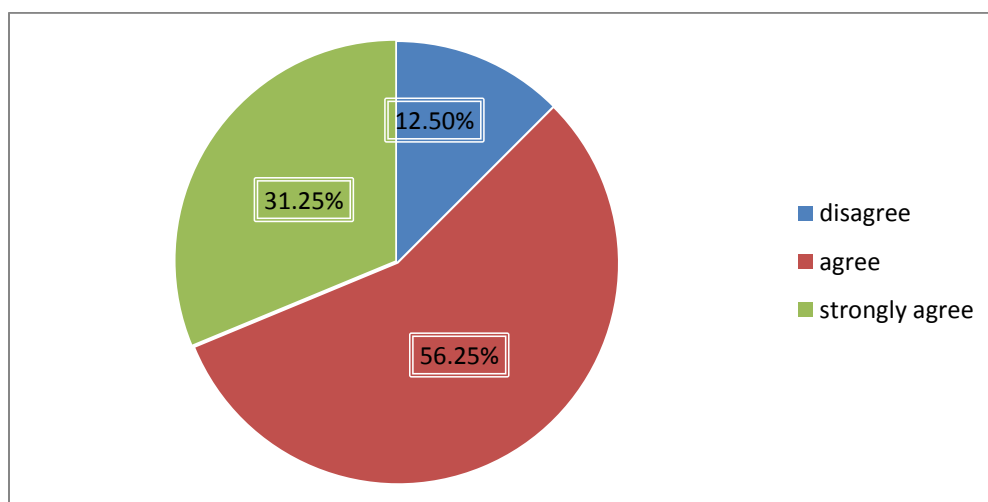
majority agreed with this statement. From this, the researcher deduced far-reaching implications concerning the future of the learners in terms of relevant and irrelevant knowledge imparted to them. A few teachers preferred foreign map teaching to local map teaching. This could mean that these teachers were not in favour of promoting local (South African) knowledge acquisition in their learners. This attitude is manifested in the non-exposure of their learners to opportunities in their immediate learning and teaching environments. Such learners would be deprived of drawing on their knowledge of the facts of significance to tourism in their local environment. They would also not be afforded the opportunity of doing practical work in their immediate environments on real phenomena.

In such learning contexts, the learners are fed with theoretical facts detached from their daily lives. The other group of teachers promoted South African map teaching before foreign map teaching. They demonstrated local education acquisition for their learners. The latter learners would be capacitated to promote their country in the international market, like the places of interest depicted on the local maps for tourist attraction. That could result in the promotion of economic growth, which would benefit the learners and the entire nation.

**Statement 13:**

It is self-fulfilling to realize that the learners are doing practical field projects.

**Figure 4.28 Practical field projects**



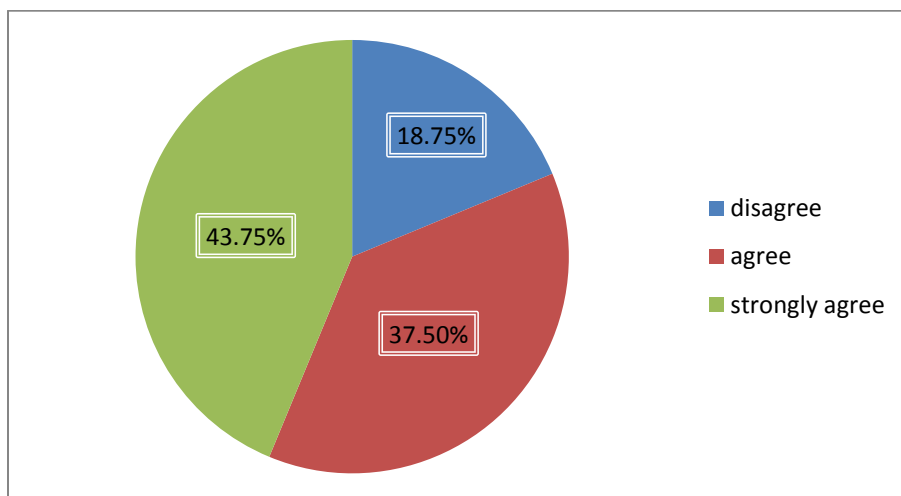
Van Schie (2011:22) says that it is important for teachers to equip learners with knowledge derived from doing practical projects on geographical phenomena. Knowledge acquisition in learners enables them to adapt to biodiversity, and to health and environmental policies to sustain their lives in their environment. The provided data by teacher respondents to the statement above indicate affirmation or rejection of the claim in relation to the assertion of Van Schie (2011:22).

The responses were as follows: Two teachers (12.50%) disagreed (D); nine teachers (56.25%) agreed (A); while five teachers (31.25%) strongly agreed (SA). The majority of the teachers were true to their educational mandate by the Department of Education (DoE) that geography teaching should be done practically to develop learners' independent learning in the subject. The implications of the non-compliant teachers, as expressed by the two teachers (12.50%) to the mandate of practical teaching in Geography did not bode well for the learners. The outcome thereof would be the production of illiterate learners in terms of maintaining and sustaining a balanced surrounding.

**Statement 14:**

I inculcate in learners skills to interpret reality by reporting on their experiences and observations of concrete reality.

**Figure 4.29 Interpretation of reality skills**



Three teachers (18.75%) responded with disagree (D); six teachers (37.50%) agreed (A); and seven teachers (43.75%) strongly agreed (SA). Three teachers (18.75%) rejected the statement; while 81.25% affirmed the statement. The implications of the two contrasts were as follows: Firstly, there were teachers who taught their learners theoretically. Secondly, there were teachers who taught their learners practically. The first group may not necessarily develop their learners into geographically knowledgeable citizens; while the second group developed their learners into becoming knowledgeable and self-sufficient citizens in terms of appropriating and relating to the world of their existence. This has already been highlighted in Charts 4.26, 4.27 and 4.28 above.

Baldstone (2000:114-115), Welton and Mallan (1981:186), and Tierney, Readence and Dishner (1995:394-395) provide information on how to inculcate in learners of Geography, the skills to interpret reality and to report on learners' experiences and observations of concrete reality in their learning environments. They maintain that the constructivist approach enables learners to acquire/grow skills to predict, organise, rehearse, practise and evaluate facts, in order to develop metacognitive abilities. The metacognitive abilities needed in the learners' learning comprise the ability to translate facts/data, synthesise ideas into a whole, e.g. ability to write a comprehensive paper on a geographical learner project, the ability to deliberate on resources on a comparative basis, the ability to interpret and record ideas on gathering data to write a report, the ability to extrapolate any given datasets, and come to a conclusion, the ability to apply principles to concrete/actual situations, the ability to analyse interrelationships of facts of phenomena in terms of their differences, and finally, the ability to evaluate a work produced by a group on practical geographical projects and give evidence on the work.

#### **4.6.2 Finding from learner questionnaire statements addressing objective 2 (Learners: The level of difficult English of Geography textbooks presents as a barrier to teaching and learning geography in grade 12 in Limpopo province)**

The purpose with Objective 2 for the learners was to draw the pertinent data from them to address the barriers under investigation. The data informed whether there was a critical link in the level of difficulty of the English of textbooks compiled by using the medium of instruction/LoLT. The data were critical in investigating the teaching and learning of Geography in the LoLT, and its effect on learner performance in the subject in the Limpopo Province.

In addressing Objective 2, a Geography teacher who is not competent in English cannot use a difficult textbook when teaching, when using the medium of instruction (Vermeulen, 2000:15). According to Turner-Bisset (2001:83-84), teachers fail to carry out the professional vision and mission of considering teaching as “a knowledge-based profession”. Sawyer (2006:302-303) and Setati (2011:11) say that a content (geography) teacher who has an operational and linguistic lack in Geography impacts negatively on the teaching and learning of the subject.

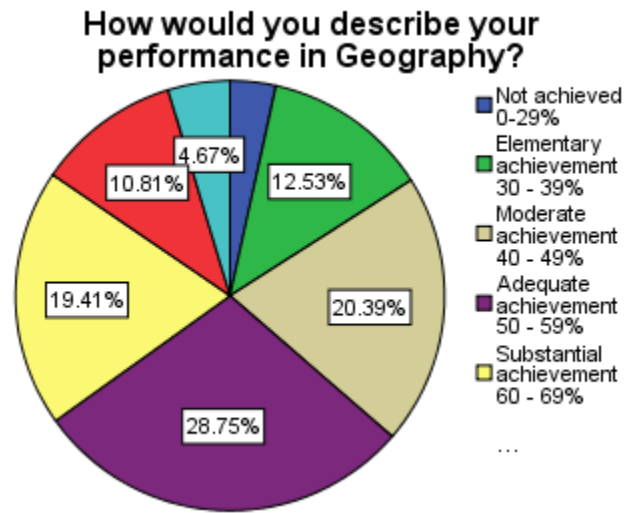
**Statement 15:**

How would you describe your performance in Geography?

**Table 4.5 Learner Performance**

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not achieved 0-29%	14	3.4	3.4	3.4
Elementary achievement 30 - 39%	51	12.5	12.5	16.0
Moderate achievement 40 - 49%	83	20.4	20.4	36.4
Adequate achievement 50 - 59%	117	28.7	28.7	65.1
Substantial achievement 60 - 69%	79	19.4	19.4	84.5
Meritorious achievement 70 - 79%	44	10.8	10.8	95.3
Outstanding achievement 80 - 100%	19	4.7	4.7	100.0
Total	407	100.0	100.0	

**Figure 4.30 Achievement in Geography**



Looking at statement 15, the considerations of James, Milenkiewicz and Buckman (2008:68) on qualitative evidence should be noted. They say that respondents may have biases towards the questionnaire item regarding the intentions of the researcher's topic. Subsequently, the respondents may withhold their ideas and feelings. The performance issue is connected to their affective aspect, which impacts on their sensitive feelings that concern their personal integrity.

The respondents responded as follows: 14 learners (3.4%) did not achieve; 51 learners (12.5%) had elementary achievement; 83 learners (20.4%) had moderate achievement; 117 learners (28.7%) had adequate achievement; 79 learners (19.4%) had substantial achievement; 44 learners (10.8%) had meritorious achievement; and 19 learners (4.7%) obtained outstanding achievement. The learners' responses reflected in Chart 4.30 have critical implications for learning and teaching outcomes in geography; because they indicate the learners' personal perceptions of their achievements in Geography. If their overall achievement is good, this implies that the learners have been exposed to good teaching, as is the case with the students in this study.

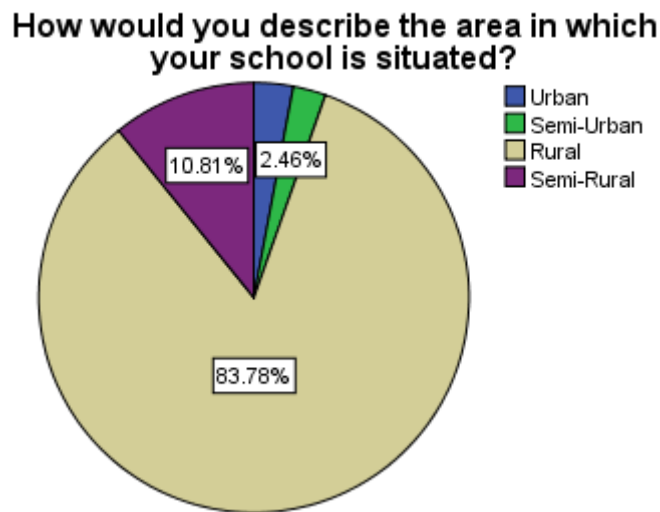
To the researcher, the first three learner categories were significant; because they could possibly point towards their performance as a result of LoLT and the use of English textbooks; these could be possible learning barriers in teaching Geography. The other category of significance was adequate achievement, which could possibly demonstrate the presence of subtle learning

difficulties. The researcher noted commendable performance manifested in the substantial achievement, meritorious achievement, and outstanding achievement categories. This is significant; as it could mean that there were some effective and efficient subject teachers in some of the schools in the province.

**Statement 16:**

How would you describe the area in which your school is situated?

**Figure 4.31 Location of school**



The information on this chart is similar to that in Chart 4.3 under Objective 1 in terms of subject teachers. The purpose for choosing statement 16 was because the learning environment has a bearing on their performance. The learning environment has an impact on a learner's level of literacy development; because the literacy level of their respective parents is related to their own literacy levels. In a specific environment, this reflects on the teachers' professional proficiency. Another consequential factor related to learner performance could be the availability of relevant learning materials for utilization by learners, in order to enhance their performance. The researcher viewed the aspect of the rural context as extremely significant to learners' educational development.

Since 83.8% of the learners came from rural schools, the implication is that learner performance could also be related to the learning challenges experienced in the rural context. They could be learning in situations where they have fewer opportunities; for example, the absence of media centres. Such learners would be vulnerable, because of the lack of literacy-promoting facilities at home/school. Their development would be dependent on their subject-teachers. However, where their teachers were ineffective and inefficient, as was demonstrated under Objective 1 (with particular reference to statements 3, 4, 6, 7, and 12), the learners would be negatively impacted. They would not have any resources to supplement their educational dearth at home.

Learners residing in semi-rural areas could also possibly suffer the same fate, because of the scarcity of resources, as in the rural areas.

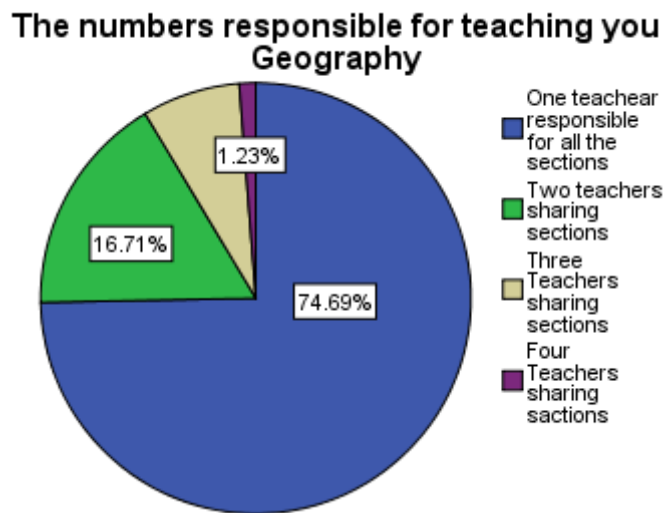
According to Benson, Heaguey, Hewitt, Crosling and Devos (2013:85), the rural factors of school location may influence the conceptual framework of concerned learners. The resources in context and the expectations of the rural community may not be sufficient to provide adequate intrinsic and extrinsic motivation to the learners to learn effectively. That is, the issue of the parental-literacy level might well contribute to the desired literacy level, which influences learners' performance. Engelbrecht Green, Naicker and Engelbrecht (1999:48) maintain that "the psychological environment of a school can act either as a barrier to, or as an opportunity for, learning and development."

This view illuminates statement 16, where the location of schools in the study may be affected by rural factors in terms of households' literacy level, which affects the learners' performance.

**Statement 17:**

**How many teachers are responsible for teaching you Geography?**

**Figure 4.32**



The researcher intended to know about the staffing in the curriculum. Teacher proficiency in the subject was viewed as a critical factor underlying the performance of teachers and learners. The aim was to look into the problem areas as far as the coverage of and catering for all the prescribed sections of the subject are concerned. The rationale of looking into the subject challenges would be evidenced in the statements addressing objectives 1 alluded to above, in which teacher had shortcomings in teaching their learners. When viewing Figure 4.32, the reader would be struck by the fact that 74.7% of the learners' responses disclosed that a solitary teacher was responsible for handling all the section of the curriculum. This state of affairs would be disastrous to all the schools concerned. This would be the case in view of the negative responses gathered on the pertinent statement on Objective 1. This dealt specifically with teachers' dearth in teaching learners Geography.

Re-visiting statements 3, 4, 6, 7 and 12 should raise an alarm on the question of the inefficiency of the Geography subject teachers. The gloomy picture demonstrated by 16.7% would be perpetuated by teachers who are sharing the subject while they are equally not competent in the

subject. Therefore, the question of the poor staffing in schools would be hopeless as far as the expectation of good results was concerned.

The teacher is an architect of the teaching and learning activities in the Geography learning situation. In principle, the teacher is to be a knowledgeable lesson planner and dispenser, in order to attain effective teaching and learning of the content. Vermeulen (2000:15), Sawyer (2006:302-303) and Setati (2011:11) maintain that a subject teacher, who is lacking in the content and the language (English) of instruction, would impact negatively on the pupils' learning. This is because the teacher would be operationally and linguistically unable to impart the intended content effectively, in order to maximise the learning of the content (Geography).

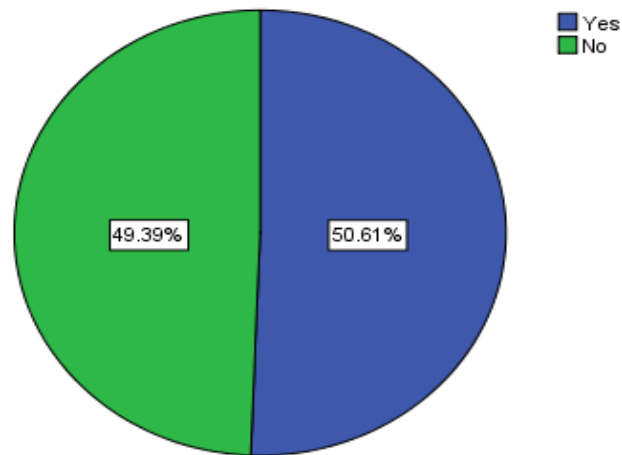
Such a teacher would be acting contrary to Turner-Bisset (2001:83-84), who considers teaching as "a knowledge-based profession." The staffing scenario depicted in statement 17 is a concern for authors, like Callanagh (2007:13) and Ho (2010:20), who believe in Geography as an integrated geoscience that requires expert teachers. Through the employment of discipline-specific approaches, learners with individual or experiential learning styles can benefit. Therefore, a teacher who cannot tackle a difficult textbook is a barrier to the teaching and learning of the subject.

**Statement 18:**

**Have you used more than one (1) textbook in your Geography class between January 2012 and this month?**

**Figure 4.33**

**Have you used more than one textbook in your Geography class between January 2012 and this month?**



Textbook are considered primary sources of curriculum-based knowledge intended for the learner to use, in order to optimise the acquisition of knowledge. However, textbooks are characterised by structural, contextual and conceptual logistical problems that impact on the use of the textbooks by the learners. Graves and Murphy (2000:229) agree with the above assertion; as they say that no textbook is deemed perfect/complete/sufficient. Butt (2002:200) says the language used in the textbook can be a barrier in terms of its difficulty and complexity for the second-language learner's linguistic level. According to Naidoo (2006:9), this state of affairs becomes compounded if the teacher offering the content is linguistically inept.

The rationale behind the question was to obtain information on whether the subject teachers had exposed their learners to different textbooks on Geography. Exposure to reading many textbooks

would help the learners to acquire more knowledge of the subject. It would advantage learners to acquire knowledge from many sources; as no single textbook can be complete or comprehensive on all the prescribed sections of the subject. Reading different textbooks would help learners to augment and supplement the scanty information in some textbooks. Over and above that, it must be noted that some textbooks are not user-friendly. Some textbooks are written in difficult English – in a complicated way for the second-language learner to follow logically the thread of meaning in the text. The results of the two categories of **YES/NO** answers would imply a bad picture, as manifested in **YES**: 2006:50.6% and **NO**: 2001:49.39%, respectively. The reader would view **NO**: 2001:49.39% response a worrying picture. The challenge in the value would be that no single Geography textbook so far has been found as perfect and comprehensive, as well as user-friendly. Therefore, the results in the question above had far-reaching implications on learners' performance.

#### **4.6.3 Findings from learner questionnaire statements addressing objective 3 (The barrier of English as the medium of instruction in the learning and teaching of geography)**

The focus from the findings of the learner questionnaire was laid on the threats the LoLT had to second-language learners in their learning of Geography. The medium of instruction and learning (English) was viewed as very pivotal in the teaching and learning situations. The teacher should dispense the contents in the learner-friendly medium of instruction (English) without compromising the meaningfulness and effectiveness of the learning activity. The teacher should encourage the listening learner to be receptive through the application of efficacious strategies and skills. In return, the learner should react communicatively and intelligibly during the teaching and learning exercises.

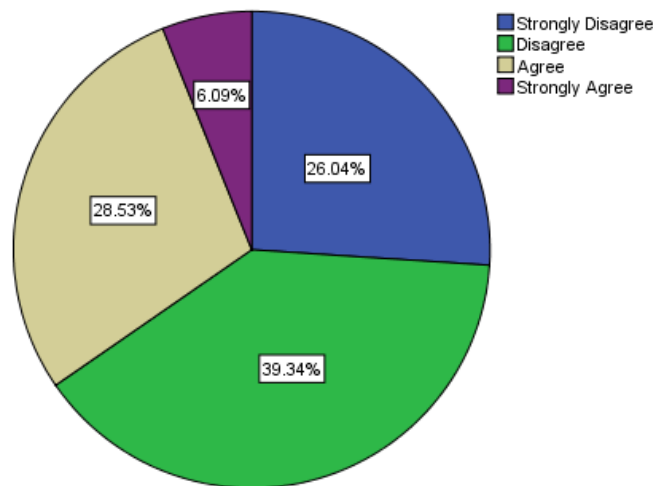
Radnor (2002:14), Sawyer (2006:30) and Seligmann (2011:13) maintain that English, as a medium of instruction forms one of the critical barriers to the second-language learner in the learning and teaching of Geography. The barrier manifests when the learner is challenged by not understanding complex concepts in Geography. This relates to the struggles of second-language learners to operate in subject-specific concepts beyond the learner's conceptualisation of the content/Geography, and for them to be able to interpret information from passages of the textbook. The learner's learning challenges are underpinned by their lack of linguistic skills to recognise linking words in learning activities in terms of their classroom-based experiences.

Objective 3 regarding the learners of Geography was probed by statements 19-26, whose data were presented by their respective Figures 4.34, 4.35, 4.36, 4.38, 4.39 and 4.41.

**Statement 19:**

**Usually, it is frustrating to be taught in English; because I struggle to follow up the rest of the lesson in English.**

**Figure 4.34**



The learners responded as follows: 94 learners (26.04%) strongly disagreed (SD) with this statement; while 142 learners (39.34%) disagreed (D). The implications of the responses above were that learners had not experienced challenges in the use of English as the LoLT. On the contrary, 103 learners (28.53%) agreed with this statement. The implication was that the learners had experienced challenges with English in their learning of Geography. The group was backed up by 22 learners (6.09%), who strongly agreed. The implications confirmed further that English is a learning barrier to the learners in question. Therefore, this implied that the latter groups would perform poorly in geography; due to the impact of the LoLT on their learning.

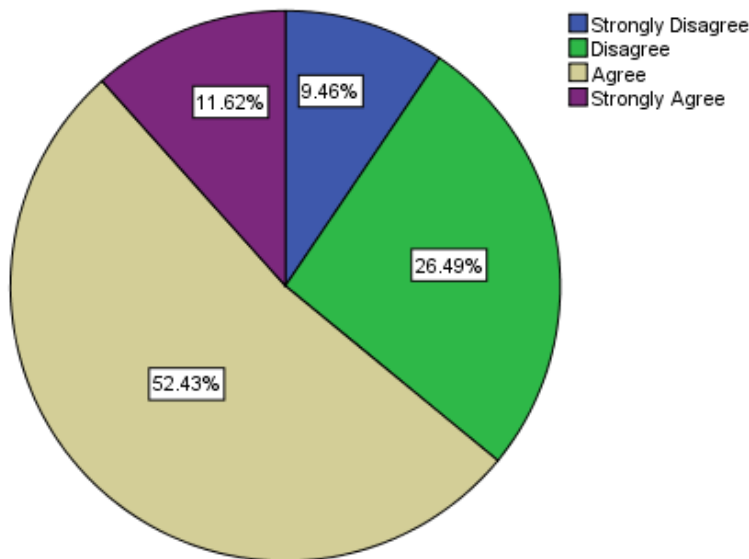
The responses to the statement should be viewed or interpreted, in accordance with the cooperative and experiential learning approach, which presupposes the attainment of meaningful learning, whereby the learner should develop optimally in the content, both conceptually and

cognitively. The above assertion is based on the views held by Radnor (2002:14), Butt (2002:200) and Govender (2010:4). These scholars complement one another by stating that English is considered as a critical vehicle in the planning, preparation and execution of lessons in Geography teaching and learning situations. The teacher of Geography directs the learners' participation in the Geography lesson through talking, writing and reading in English. Butt (2002:200-2011) says that the interaction between the teacher and learners happens to be barred by the use of geographical technical language used predominantly beyond the conceptual development of the learner.

**Statement 20:**

**The use of big English words confuses me, when learning Geography.**

**Figure 4.35**



The responses were 35 learners (9.46%), who strongly disagreed (SD) with this statement, followed by 98 learners (26.49%) who disagreed (D) with the proposition. On the contrary, 194 learners (52.43%) agreed (A); while 43 learners (11.62%) strongly agreed (SA).

The implications from the latter responses were that a larger proportion of the learner population stated they had experienced LoLT challenges in their Geography classrooms. However, it is

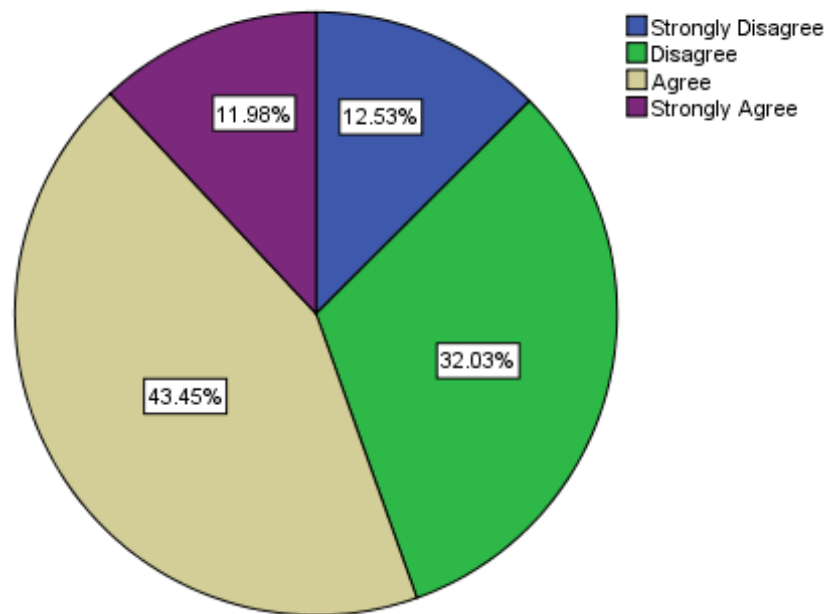
equally important that 35.95% of the learner population did not experience problems with the English words, when learning the subject; whilst at the same time, as many as 64.05% of the learner population found this a problem.

Radnor (2002:14) and Seligman (2011:13) view English as the medium of instruction for Geography teaching as a critical learning and teaching barrier. This is because the second-language (English) learners do not command an understanding of the complex concepts of Geography and language (English) literacy/vocabulary to function in their learning environments.

**Statement 21:**

**I happen to have a problem with the use of many English synonyms in textbooks.**

**Figure 4.36**



The learners reacted to the statement as follows: 45 learners (12.53%) strongly disagree, 115 learners (32.03%) disagreed, 156 learners (43.45%) agreed with the statement, and 43 learners (11.98%) strongly agreed with the statement. It appeared that the collective of 44.56% rejected the statement; while 55.44% affirmed the statement. A significant number (11.79%) did not

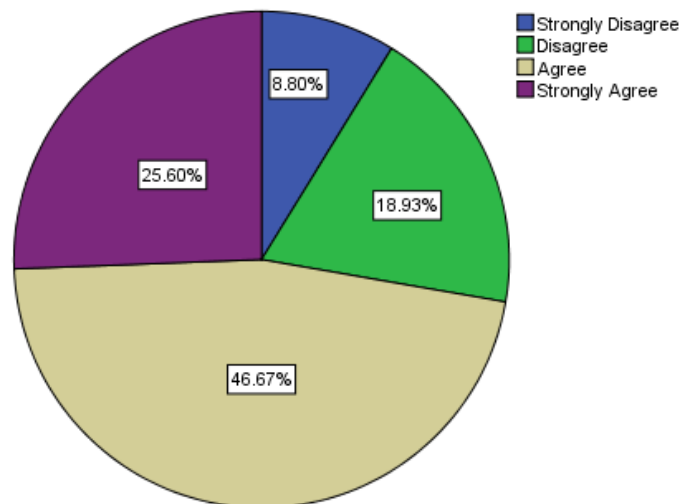
respond to the statement. The implications drawn from both contrasts were that there existed two parallels in the learners' performances. Ultimately, good schools in the province focus more on the English abilities of their students. However, due to the remoteness of the province, the situation in various schools would differ. Schools in remote areas of the province experience difficulty with English; because they use the local African language most of the time.

Sawyer (2006:302) says that Geography textbooks' complex/technical/specific language makes it difficult for second-language learners to function linguistically when articulating ideas. The textbooks' technical language problem emanates from the learners' lack in language proficiency. Learner's lack in operational literacy manifests in reading and comprehending meaning from text passages during Geography classroom activities. The train of the pupils' learning process in terms of interpreting new information, assimilating and accommodating meta-cognitively becomes hampered (Sawyer, 2006:303).

**Statement 22:**

**I become confused when questions are asked in different difficult English words in examinations.**

**Figure 4.37**



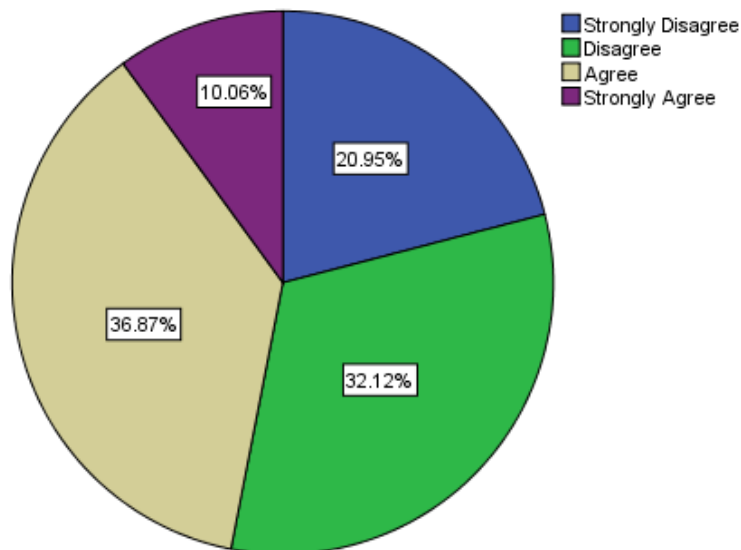
Learners responded to the statement as follows: 33 learners (8.8%) responded with strongly disagree (SD), 71 learners (18.93%) disagreed (D). On the other hand, 175 learners (46.67%) agreed (A) with the statement; while 96 learners (25.60%) strongly agreed (SA). At this juncture, it is important to mention that in addition to the use of English words, one must also mention the use of difficult English words; and this scenario in an examination context poses a big challenge to the learners. The scenario reflected in Figure 4.37 implies that if learners are not communicative in English, the expected examination performance of such learners would be poor. This means that the collective 271 (66.58%) learners would experience challenges in answering the questions – due to the misunderstanding of some keywords in the gist of the questions. Their results in the subject would consequently be affected.

The statement implies consequential challenges to second-language learners' conceptual and literacy development. The challenges emanate from content teachers' failure to impart to learners the Geography-specific technical language, as explained by Plüddemann (2002:55). Content teachers who are lacking in their subject knowledge subsequently disempower the learners entrusted to them. They are unable to empower them with the specific knowledge to develop into well-informed future workers (Naidoo & Bloch: 2008:45, Bloch 2010:7).

### Statement 23

**I sometimes have a problem in following instructions in English because of the use of words I am not used to.**

**Figure 4.38**



In response to this statement, 75 learners (20.95%) strongly disagreed (SD) and 115 learners (32.12%) disagreed (D). Conversely, 132 learners (36.87%) agreed (A) with the statement, and 36 learners (10.06%) strongly agreed (SA) with the statement. The learners' responses painted a controversial picture, which was contrary to Figures 4.35, 4.36 and 4.37 above, which confirmed that the LoLT was a barrier to learning and teaching. Furthermore, the learners demonstrated inconsistency in their responses, which had questionable implications to their literacy level in the LoLT.

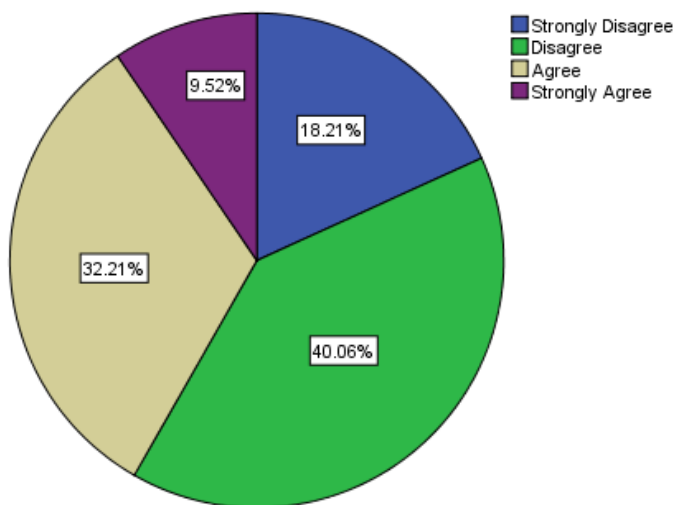
Naish (1992:186) says learners experience learning challenges because they cannot cope with the difficult language (English) emanating from difficult passages. As a result, they cannot discern key points from chunks of information in complex sentences in many passages. The problem experienced by the learners emanates from the subject teacher, who fails to minimise or remove the barriers by providing instructional help to the learner. Consequently, the teacher renders the

learners vulnerable to losing opportunities to grow in both the content and medium of instruction.

#### Statement 24

**The use of tense in English confuses me; because I usually forget which one to use when writing in Geography.**

**Figure 4.39**



There was a mixed response to the statement concerning the use of tenses, when writing in Geography: 65 learners (18.21%) responded with strongly disagree (SD); 143 learners (40.06%) responded with disagree (D). 132 learners (32.21%) agreed (A) with the statement; and 34 learners (9.52%) responded with strongly agree (SA). The underlying conclusion was that a fair number of learners (41.73%) adhered to tense use in their writing or communicating. In view of the contrast pointed out in pie-chart 4.38, this casts doubts on the discerning skills of the learner population at large in terms of the mastery of the LoLT. Over and above the contrast referred to, it should be noted that the LoLT is a recognized learning barrier for second-language learners.

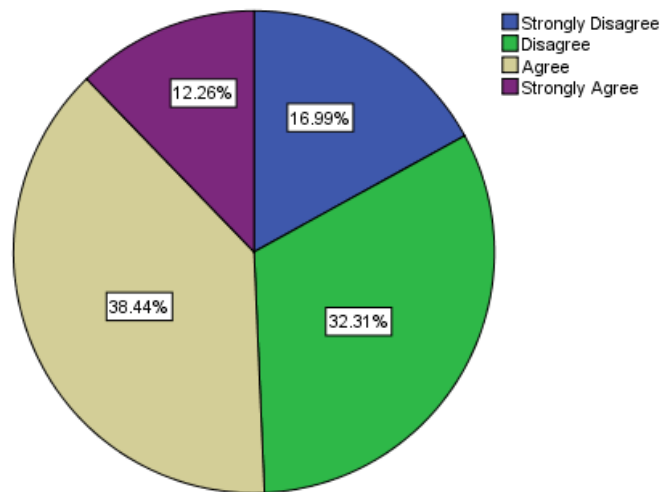
Mastery of the operational language is considered critical in teaching and learning in Geography; because the meaningful message depends on the articulate reporter/presenter in co-operative learning (Sawyer, 2006:300). James (2010:34) say teachers are obliged to develop

communicative competence in the content. Mastery of the medium of instruction in Geography, therefore, entails command of spelling, punctuation and grammar. These competencies are the means to the attainment of successful reporting.

**Statement 25**

**In most cases, I pick up problems in summarizing a paragraph in a case study; because of difficult English words.**

**Figure 4.40**



For this statement, 61 learners (16.99%) responded with strongly disagree (SD); and 116 learners (32.31%) responded with disagree (D). In affirmation of the statement, 138 learners (38.44%) agreed (A) with the statement; while 44 learners (12.26%) strongly agreed (SA). The responses in both broad categories indicated an almost-balanced equation. Again, it is evident that a fair number of learners experience difficulty with use of technical English words. The practical implications would be that some learners did not comprehend the logistical challenges in terms of summarizing a case study. If one considers chart 4.20 on statement 6, 49.3% of the teachers did not develop their learners in geographical terms.

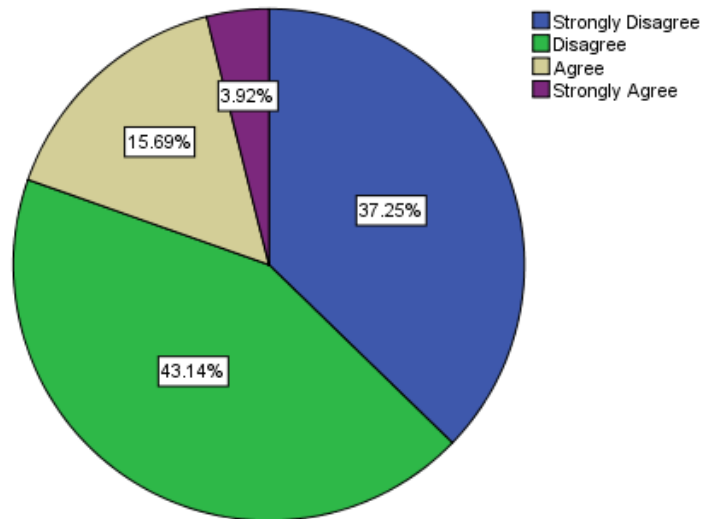
This indicates a gap in knowledge of geographical concepts/ terminologies, which could also be related to their literacy level in terms of the above statement.

Cotton (1995:137) says that effective teaching emanates from expert teachers in a content that begets effective learning in the learners. On the contrary, poor curriculum teachers perpetuate poor practice in their learners. Summarising a case study is a challenging exercise in Geography. It is compounded by complex curriculum/Geography-specific language use, with which the Geography learner has to grapple, to conceptualise and contextualise, in order to realise meaningful learning. Dale, Ferguson and Robin (1988:23-24) say it is the subject teachers who hinder educative learning in their learners – due to their lack of teaching skills and strategies to affect their conceptualisation/contextualisation in the content. Learners taught by a competent teacher learn skills concretised operationally in identifying key words and points in the passage in context; and they are thus able to summarise logically and systematically.

**Statement 26**

**It is hard for me to construct sentences in English when answering questions in class.**

**Figure 4.41**



The statement was rejected overwhelmingly by 287 learners, as follows: 133 (37.25%) learners strongly disagreed (SD); and 154 (43.12%) learners disagreed (D) with the statement. On the contrary, 56 (15.69) learners agreed (A) with the statement and 14 (3.92%) learners strongly agreed (SA). The holistic picture was that 80.37% of the population rejected the statement. This

implies that most of the learners were in command of the LoLT. The learners' view was contrary to their teachers' responses under Objective 3 for statement 27 (chart 4.42); who maintained that their learners had challenges with the LoLT and in answering questions. In their response, 80.39% of the teachers' confirmed that their learners had challenges in constructing simple logical sentences in English in their Geography lessons. Therefore, these responses by the learners are likely to be untrue or misleading.

Communicative competence entails the ability to construct intelligible sentences and articulate ideas and experiences flexibly in class. Moreno (2010:298) says it incumbent upon expert teachers in their specialised curriculum to expose their learners to active and experiential learning in the medium of instruction. This exposure would develop them, so that they construct sentences based on context. It is the competent curriculum teacher who initiates learning activities to develop learners in listening, speaking, reading and writing skills. Moreno (2010:298) suggests that practising experiential learning in sentence construction on a regular basis helps learners to perfect their sentence construction through listening to the competent teacher guiding and directing the use of meaningful practical language.

The competent teacher engages the learners in speaking in English, in order to redress any syntactical flaws to perfect their writing skills in Geography. Active engagement in all the activities presupposes the ability in sentence construction (Moreno, 2010:298). Tierney Readence and Dishner (1995:394-396) uphold the acquisition of meta-language/metacognitive skills in learners. Metacognitive skills manifest in the rehearsal of key words by the learner – words, which can be used in sentence construction – to convey ideas in interactive learning in class. Furthermore, sentence construction is practised and planned by the competent teacher granting learning opportunities for the learner to develop communicative skills, and to realise communicative competence in the LoLT.

#### **4.6.4 Findings from teacher questionnaire statements addressing Objective 3**

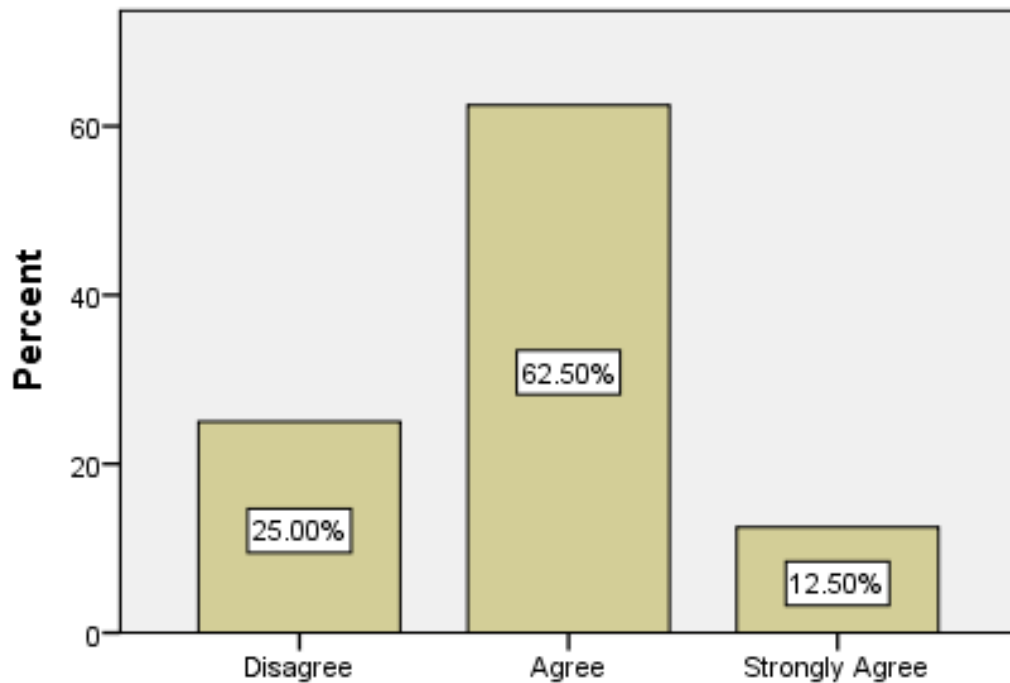
As in the case of the learners concerning Objective 3, the focus of the research for the teachers was on how the LoLT impacts the learners' learning in relation to teaching and assessment. Of significance was the correlation of the learners' responses and the teachers' responses. The

varying points of view that emerged emanated from the teacher's professional discerning of the educational exercises, in contrast with the learner's level of literacy in terms of the command of the learning content and LoLT. The subject teachers pointed out subtle manifestations of learning challenges that the learners experienced from the didactic activities. On the other hand, the learners' identified the salient challenges, which would have implications on the outcomes of the study.

**Statement 27**

**Learners generally struggle to construct simple logical sentences in English in Geography lessons.**

**Figure 4.42**



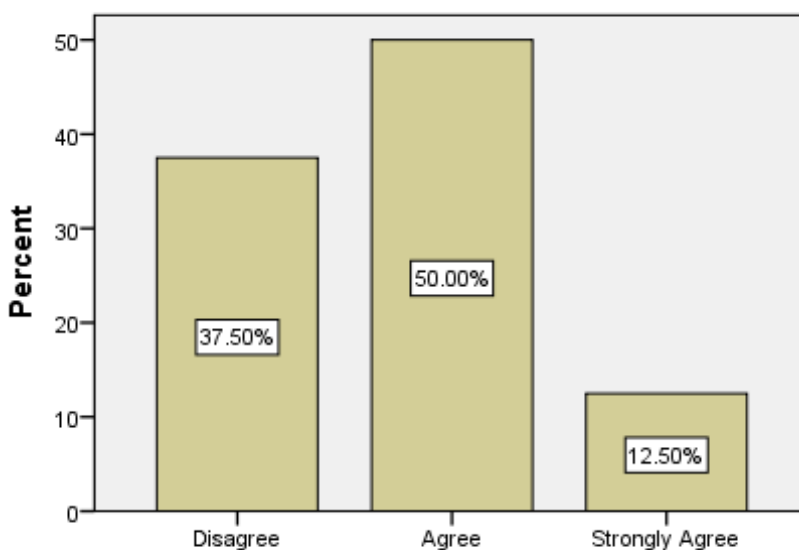
The teachers' responses were as follows: Four teachers (25%) disagreed (D) versus the 10 teachers (62.5%) who agreed (A), and the 2 teachers (12.5%) who strongly agreed (SA) with the statement. These results imply that the LoLT was impacting on the performance of the learners.

The reader would have realised that the responses of the teachers were in contrast with those of their learners, as indicated in statement 23 and chart 4.38, statement 24 and chart 4.39, statement 25 and chart 4.40, statement 26 and chart 4.41. In summary, the learners' responses had implications for the study; because in some cases, they gave contrasting responses that could compromise the reliability of the results of the investigation.

### Statement 28

**Learners do not command mastery of the subject-verb agreement in oral and written presentations.**

**Figure 4.43**



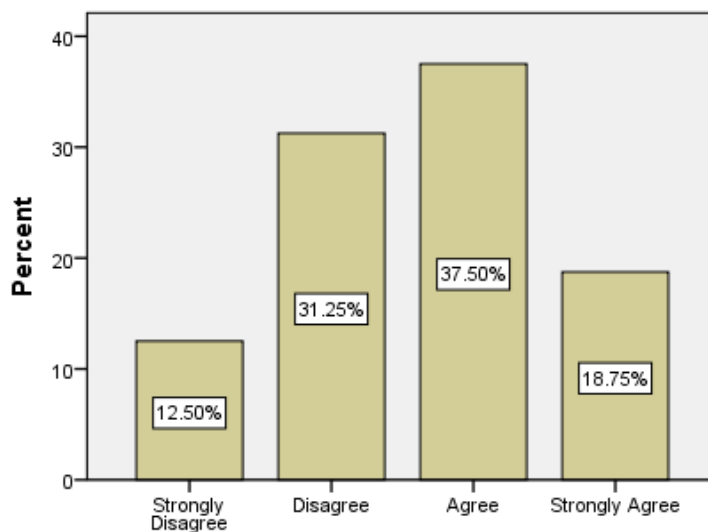
In response to this statement, 6 teachers (37.5%) responded with disagree (D); while 8 teachers (50%) and 2 teachers (12.5%) responded with agree (A) and strongly agree (SA), respectively. Rejection of the statement by most of the learners signified that the learners commanded the subject-verb agreement well in their oral and written presentations. This implied that they were intelligible in the presentation of their assessments. However, affirmation of the statement implied that the majority of the learner population had LoLT command challenges with respect

to the use of the concord, which would render their presentations vulnerable in terms of understanding by the reader.

### Statement 29

#### Learners are often unable to differentiate use of geographical words in context

Figure 4.44



The teachers' responses to this statement were relatively contrasting. They responded as follows:

Two teachers (12.5%) strongly disagreed (SD); 5 teachers (31.25%) disagreed (D); 6 teachers (37.5%) agreed (A); and 3 teachers (18.75%) responded with strongly agree (SA). Disagreement with this statement collectively constituted 43.75%; while affirmation of this statement constituted 56.3%. From the perspective of statements 6 and 30 reflected in charts 4.20 and 4.44, a significant point was raised. This implies that despite the fact that a fair number of learners had acquired the geographical terms, they still could not perform well, according to statement 28. Moreover, 56.25% affirmed that learners had problems with geographical terms, which impacted their understanding of the subject.

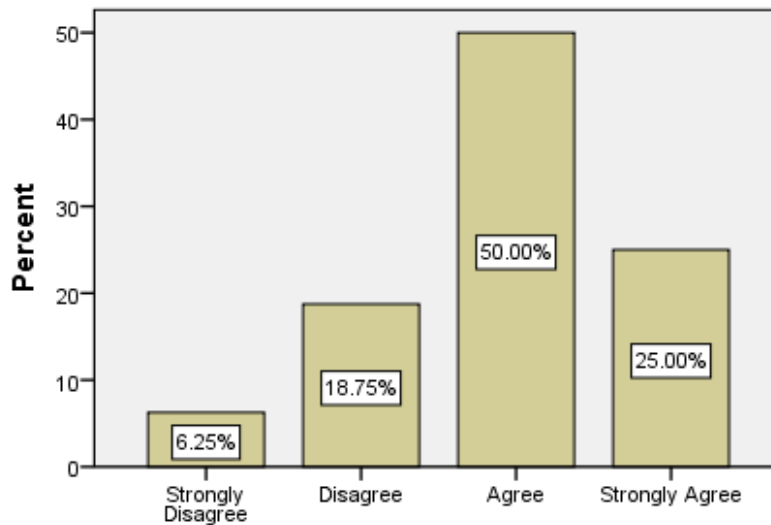
The statement implies that Geography teachers should teach learners Geography-specific language, in order to maximise their conceptual and contextual frameworks. Vermeulen

(2000:15) says that a Geography teacher who is lacking in Geography-specific language deprives the learners' opportunity to grow their communicative competence.

### Statement 30

**Spelling poses serious problems for learners resulting in distortions of meaning in the communication/presentations.**

**Figure 4.45**



Most of the responses affirmed the statement, constituting 75% collectively. The affirmation was split as follows: 8 teachers (50%) agreed (A) and 4 teachers (25%) strongly agreed (SA). This implies that most of the Geography learners have spelling challenges in terms of geographical concepts and the LoLT, in general. The spelling barrier influenced their oral and written presentations, resulting in underperformance in the subject as a whole.

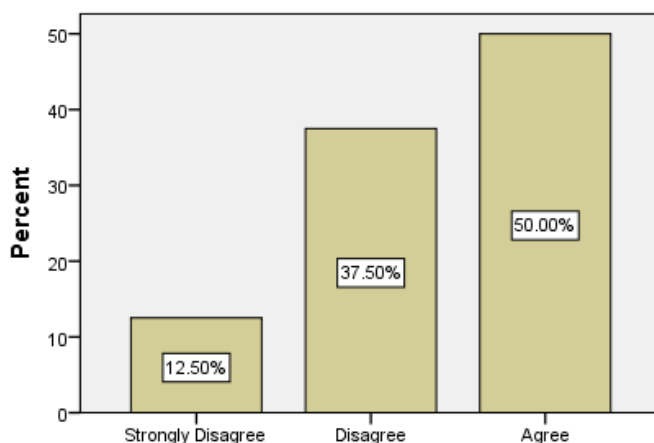
Spelling influences communication enormously: either positively or negatively. It must be practised regularly, in order to enhance good written reporting. Therefore, Geography teachers need to initiate spelling activities (Bears & Barone 1998:18, Skehan 1999:246). On the contrary, Moreno (2010:298) maintains that some geography teachers deny their Geography learners the

opportunity to perfect their spelling ability – due to their failure to employ the constructive approach.

### Statement 31

**Learners think effectively in their home language, resulting in distortion of the facts.**

**Figure 4.46**



The responses to the statement were as follows: Two teachers (12.5%) strongly disagreed (SD); six teachers (37.5%) disagreed (D). This collectively constituted 50% disagreement (D) to the statement. In terms of affirming the statement, eight teachers (50%) agreed (A) with the statement. The teacher respondents displayed inconsistency in their experiences in terms of prevalent barriers to Geography learning and teaching. Regarding affirmation of the statement, consistency was sustained in maintaining that the LoLT was a barrier for second-language learners in Geography.

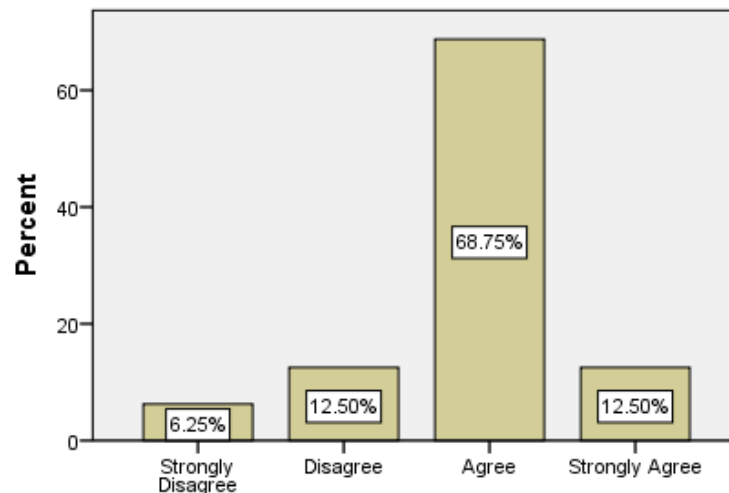
The importance of teaching learners Geography-specific language can hardly be overemphasized; because it is consequential in their cognitive development in terms of their practice in their future careers. Howell and Lazarus (2003:5) view the language of teaching, or the medium of instruction, as the most significant barrier to learners in Geography, especially if teachers do not engage learners to practise this Geography-specific language. Radnor (2002:14)

and Govender (2010:4) maintain that Geography teachers should teach their learners Geography-specific language to optimize their language in their cognition or metacognition. Learners can be developed in their cognitive and metacognitive skills by giving them specific-learning activities.

### Statement 32

**Learners are quite often unable to follow instructions properly in English, resulting in answering questions wrongly – even if they knew the facts/ had information.**

Figure 4.47



The responses were as follows: One teacher (6.25%) strongly agreed (SA); two teachers (12.5%) disagreed (D); 11 teachers (68.75%) agreed (A), two teachers (12.5%) strongly agreed (SA) with the statement. The collective results showed that the statement was confirmed overwhelmingly by 81.25% against 18.75%. These responses to the statement confirmed the general view that emerged that the LoLT was considered a barrier to Geography teaching and learning.

Following the instructions is a significant ability underpinned by skills to identify key points and words/concepts in a given passage or a case study. Campbell (2001:23) says that the ability to follow instructions presupposes the ability to predict and analyse facts in a given activity or Geographical undertaking. Cotton (1995:137) says that instructional development in learners

emanates from the good practice employed by good teachers, who can develop good practice in their learners.

#### **4.6.5 Objective 4: Teachers: Code-switching from English into vernacular languages in teaching and learning geography presents as a barrier to second language learners.**

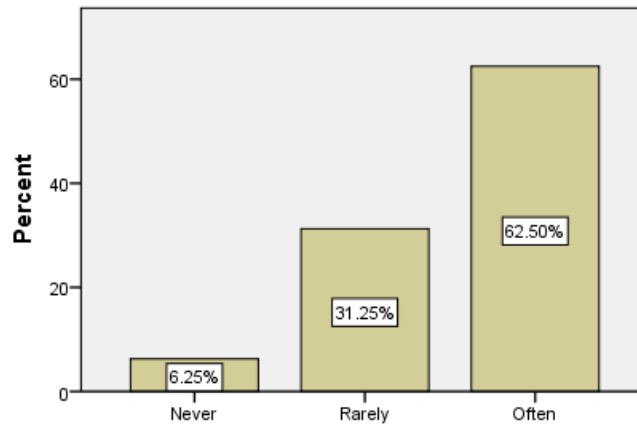
The main objective of teaching and learning Geography centres on the provision of literacy to learners. The literacy in Geography entails the mastery of a repertoire of practices employed by the teacher in dispensing knowledge to learners in the context, in order for them to acquire content-specific linguistic competence (Sawyer, 2006:302). Vermeulen (2000:15) says language literacy enables learners to interact with the world by sharing ideas, experiences and grasping possibilities. Objective 4, in terms of teachers, focuses on code-switching practice, which is probed by statements 33 to 40 militating against the development of communicative competence in the learners. This is because code-switching impoverishes learners' conceptual, contextual and linguistic knowledge/development.

Leat (2002:109-111) considers that teachers, who are not able to teach Geography competently in English to be non-specialist Geography teachers; because they do not aspire to craft Geography-career paths for their learners.

### Statement 33

**I use the home language to explain abstract [geographical] terms.**

**Figure 4.48**



With regard to the use of African languages in teaching their learners, the teachers in the study responded as follows: One teacher (6.25%) did not use the home language to explain geographical terms; five teachers (31.25%) rarely used their African language to facilitate their learners' learning challenges. Ten teachers (62.5%) often saw it necessary to employ the home language, where their learners experienced difficulties in respect of the LoLT in geographical terminologies. Two teachers (12.5%) always cultivated the habit of using an African language as a parallel vehicle to teach their learners. The implications of the responses is that subject teachers who have never adopted African languages as an alternative medium of instruction have an option to present to their learners in relation to the development of their specific curricular terminologies – resulting in the attainment of a communicative level.

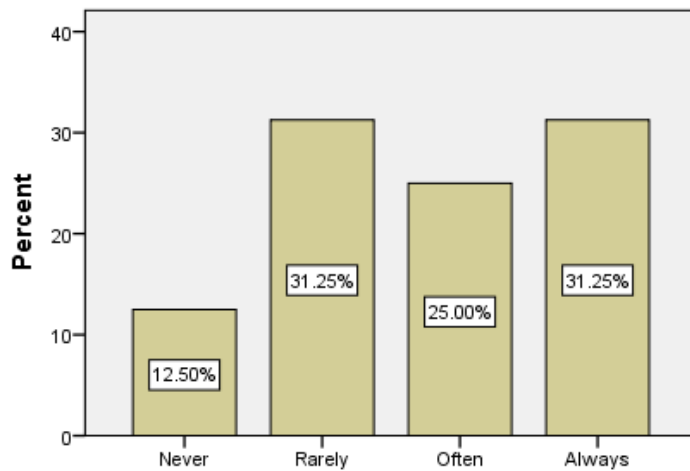
The same benefit is also available to teachers who rarely use an African language, when explaining the abstract terminologies used in Geography. For the 62.5% of teachers who frequently practise code-switching as a norm, this impacts on the learners' growth and acquisition of linguistics/terminologies in Geography. This may also imply that the teacher lacks competence in English and in the learning content.

The statement is examined in terms of the view held by Breidlid (2003:83) that the curriculum-challenged teacher is tempted to shield his/her curriculum-specific language weakness behind code-switching into the vernacular language (MT). The use of the MT with the intention to facilitate the acquisition of geographical terminology is counterproductive for the Geography linguistic competence of learners. Code-switching is a futile exercise; because, according to Mahlalela-Thusi and Heugh (2001:24), “there is no, or insufficient, terminology in African languages” to supplement English for second-language learners in Geography.

**Statement 34**

**I use the home language to translate difficult English words for learners.**

**Figure 4.49**



The teachers responded to the statement as follows: Two teachers (12.5%) responded **never**; five teachers (31.25%) responded **rarely**; four teachers (25%) responded **often**; and five teachers (31.25%) responded **always**. The implications of the responses by the teachers are that learners are the ones who benefit from this kind of assistance from their teachers. This means that the subject teachers who teach the Geography subject would develop their learners optimally. Such development would benefit their future career paths. This also implies that the vulnerable learner

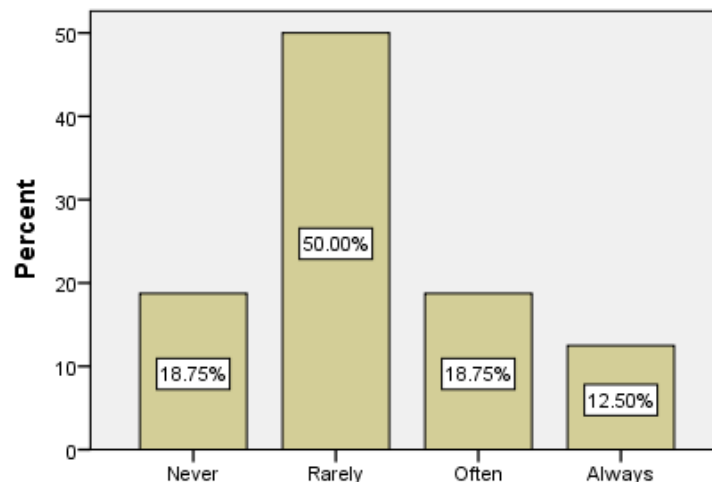
would not be able to communicate the facts by using specific subject terminologies; and this would compromise their achievement during the assessment process.

Rodseth (2002:109) attests to the view of Mahlalela-Thusi and Heugh (2001:24) that a dual medium of instruction in Geography classes is encouraged by teachers who are not competent in the medium of instruction (English). This means that a competent teacher in Geography would not be challenged when required to teach effectively in English.

### Statement 35

**I use the home language to help learners to follow the Geography lesson.**

**Figure 4.50**



In response to this statement, three teachers (18.75%) responded **never**; eight teachers (50%) responded **rarely**; three teachers (18.75%) responded **often**; and two teachers (12.5%) responded **always**. The responses were analysed in terms of the individual implications. The first category subject teachers never use an African language to remedy the learning challenges of the learners. That in itself would instil confidence in them to grapple with the LoLT. Subsequently, it is possible that learners would grow in literacy and mastery of Geography. The same would be achieved with learners, where their teachers rarely use African languages in their teaching and

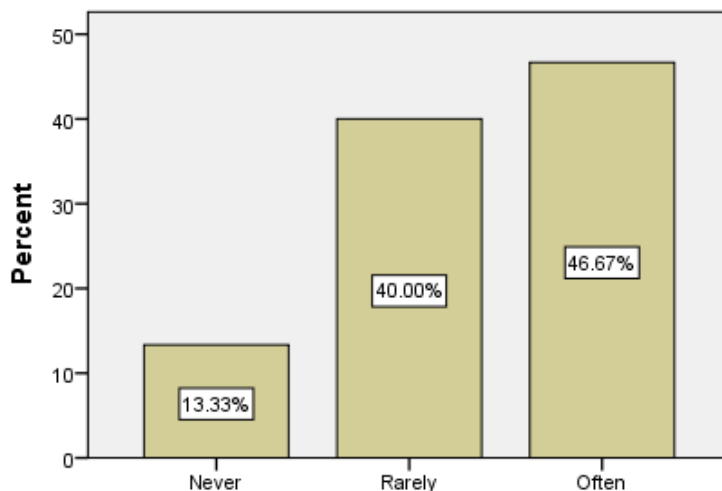
learning. The implications here would be that the teachers would not encourage the use of African languages; but the LoLT is rather promoted. Teachers who often practise code-switching influence their learners not to think and communicate in the LoLT, but preferably in the African language(s). This practice mitigates against their development in the LoLT. The same practice would apply to learners, whose teachers are always indulging in code-switching; because this would be detrimental to the attainment of literacy in the LoLT and the subject *per se*.

Leat (2002:109-111) indicates that Geography teachers who are lacking in Geography linguistic competence opt for practising code-switching from the LoLT into the MT. This practice disfavours the learners; because they are unable to achieve communicative competence in Geography. Instead, they would be impoverished in terms of their mastery of concepts in Geography, which would deprive them of opportunities in their career paths.

### Statement 36

**I reprimand my learners for using the home language in the Geography class.**

**Figure 4.51**



In response to the reprimands given to learners by teachers because they use their home language in the class, two teachers (13.33%) responded **never**; six teachers (40%) said **rarely**; and seven

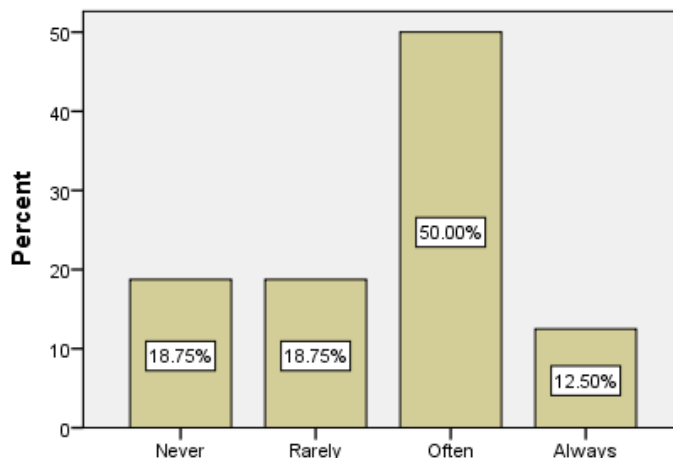
teachers (46.67%) said **often**. The implications of the responses indicate that some teachers reprimand learners and some do not; therefore, this response is not a good indicator of the use of home languages in the class. This means that the teacher respondents did not stick to their professional practice and employment of the policies and principles related to the language used in their classrooms. This also means that teachers did not encourage their learners to use English orally, or in written form, for assessment purposes. This practice would not remedy spelling, terminology and thinking in English in the Geography classroom. The approach could affect their performance in the subject as well.

The teacher in command of geography-specific language would always engage the learners in learning Geography via English. The teacher should pursue a constructive teaching and learning approach to grow communicatively competent learners. Such practically taught learners would ultimately follow Geography-specific career paths. The adherence to the constructivist approach is considered by Turner-Bisset (2001:83-84) to be “a knowledge-based career” highly valued for learners to acquire. The endorsed constructivist approach is preferred to code-switching, which bars learners from growing in knowledge.

### Statement 37

**Learners who use the home language in the Geography class can still present good answers in English in the examinations.**

**Figure 4.52**



The teachers responded as follows to this statement: Three teachers (18.75%) responded **never**; three teachers (18.75%) responded **rarely**; eight teachers (50%) responded **often**; and two teachers (12.5%) responded **always**. Most of the teachers were convinced that the use of African languages did not impact at all on the learners' performance in examinations – even if they were not accustomed to the use of English prior to sitting for an examination. The latter responses did not correlate with the views of statement 21 and chart 4.36, which concluded that learners struggled to comprehend the content due to LoLT challenges. Therefore, this raises the following question: How could the learners then cope without thorough practice in answering in English in examinations? On those grounds, the teachers' responses lacked conviction for this statement.

Howie (2005:178) says the second-language learners “dip in their performance in Geography, due to the fact that they struggle with questions... resulting in their being unable to articulate their answer when writing in English”. Butt (2002:200) considers English as the medium of teaching and learning Geography in all learning situations. Govender (2010:4) and Haselhurst (2010:6) accentuate the views held by Butt (2002:200) and Howie (2005:178) by considering

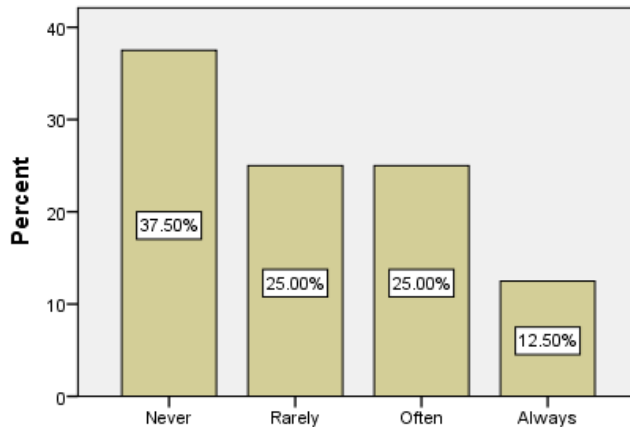
English as a consequential core to teaching and learning Geography. Their views regarding English as a medium of instruction in Geography are critical. Teachers who do not use English for teaching hinder the learners from developing their communicative competence. They can hardly present/articulate answers to questions in examinations, thereby threatening good performance.

Mahlalela-Thusi and Heugh (2001:24) maintain that the MT cannot be used an alternative for English in teaching and learning Geography. Therefore, Geography teachers who use the MT in Geography militate against the accomplishment of communicative competence in the learners.

### Statement 38

**English is a recognized barrier to the non-English speakers in a Geography class.**

**Figure 4.53**



The teachers responded as follows: Six teachers (37.5%) **never** recognized LoLT as a barrier; four teachers (25%) **rarely** recognized the LoLT as a barrier; four teachers (25%) **often** recognized the LoLT as a barrier; and two teachers (12.5%) **always** recognized the LoLT as a barrier. The above statement underpinned one of the four barriers under investigation. The teachers' responses to the statement were viewed in conjunction with statements 20, 21 and 22 and charts 4.35, 4.36 and 4.37. According to the statements and their respective charts, it was

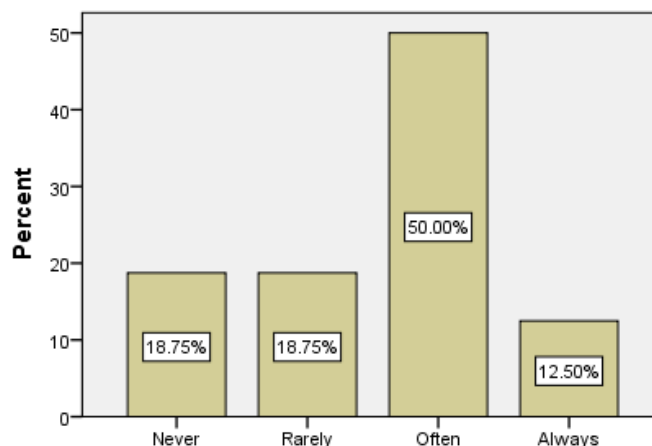
acknowledged by the learners that English remains a recognized learning barrier. According to the teachers, it was maintained that English is learner-friendly, with particular reference to the 37.5% of the responses to **never**; and the 25% responses to **rarely** above. Again, the teachers' responses signified to the researcher that some teacher responses did not correspond with the first-hand experiences displayed by the learners as central figures in the teaching and learning experience. The learners, however, were backed by a 37.5% collective response to **often** and **always**. They convincingly indicated that English was a recognized learning barrier.

Research has asserted that English is a fundamental learning and teaching barrier in Geography. The problem emanates from poor teachers in English overlapping with their lack of Geography-specific language. Essien (2010:34) asserts that learners underachieve in the matric examinations; because they are unable to answer the questions correctly. This is due to their poor communicative competence. Setati (2011:11) agrees with Essien (2010:34) that English literacy and mathematical literacy are critical links to good performance by learners.

### Statement 39

**I use the home language in class when I realize learners seem lost in my lesson**

**Figure 4.54**



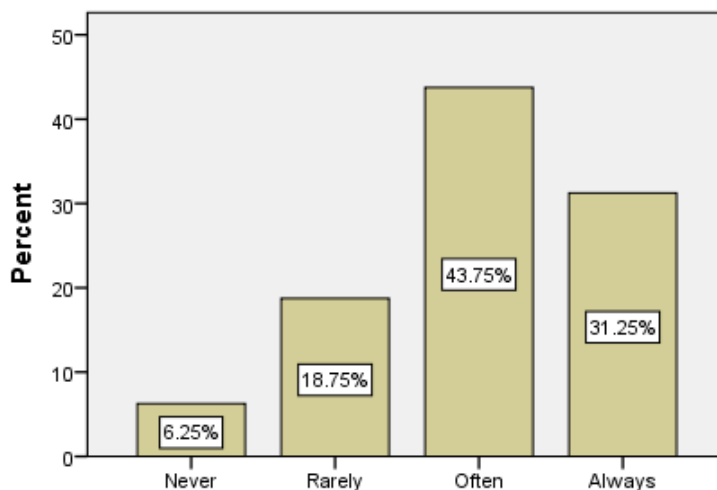
The statement was affirmed by eight teachers (50%) and two teachers (12.5%), constituting 62.5% collectively in respect of **often** and **always**, respectively. Such teacher-attitudes and practice deprived the learners of independent thinking opportunities in Geography for their cognitive and conceptual development. Ultimately, it is probable that their learners would perform poorly in Geography. On the contrary, 37.5% constituted by **never** and **rarely** were recorded affirming that they practised English as a matter of principle in the teaching and learning situation. Such learners would be advantaged to implement adaptive attitudes to the use of English for practical learning; and to realize their literacy in the LoLT and Geography. Again the views are mixed for this statement.

Turner-Bisset's (2001:83-84) paradigm of teaching maintains that teaching is "a knowledge-based profession". It suggests that a knowledgeable Geography teacher should be in command of effective-teaching methods commensurate with the pertinent teaching strategies earmarked for specific learners' (experiential approach/development in Geography). A teacher who commands expertise in Geography would not run out of ideas on how to cater for individual learners in the learning situation. The teacher would ensure that each learner benefits optimally, and would grant learning opportunities to each learner (Bloch, 2009:90-91).

#### Statement 40

I use the home language in Geography lessons when I want my learners to understand the lesson.

Figure 4.55



The responses to this statement were as follows: One teacher (6.25%) responded **never**; three teachers (18.75%) responded **rarely**; both values taken together comprised 25%. Seven teachers (43.75%) responded **often**; and 5 teachers (31.25%) responded **always** both of which collectively constituted 75% when taken together. The logic deduced from the values to **often** and **always** would imply a detrimental effect on the learners in terms of denying them growth in the LoLT and in their Geography.

The practice suggested in statement 40 implies that the Geography teachers in question are lacking in Geography-specific language (Turner-Bisset) (2001:83-84). Consequently, second-language learners would not be able to grow in communicative competence. They would be deprived of the opportunity to learn Geography in English – in preparation for answering questions in English in examinations (Bloch, 2009:90-91).

**Findings from learner questionnaire statements addressing Objective 4 (Learners: Practice of code-switching from English to vernacular languages deprives second-language learners' opportunities to develop in Geography-specific language/literacy.)**

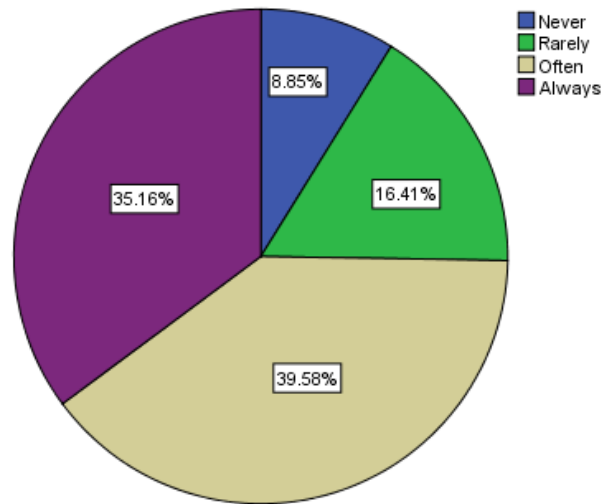
Howell and Lazarus (2003:5) aptly say that English, as the medium of instruction, is the most significant barrier to learning and teaching in Geography. The Geography teacher's command of English and the content itself impacts on the learners in terms of their knowledge acquisition or development in Geography. Butt (2002:200) considers teachers' lack of knowledge and language literacy as a barrier to instruction, resulting in communicative incompetence. Cotton (1995:80-87) says that incompetent Geography teachers compound the learning barriers of second-language learners' by promoting code-switching from the medium of instruction into the vernacular languages.

This implies that those Geography teachers who lack Geography-specific knowledge would produce incompetent learners. In short, unskilled Geography teachers would not be able to realise the vision and mission of the curriculum in terms of producing knowledgeable citizens, which is expected of them as their core business.

### Statement 41

**Our teacher uses the home language for explaining difficult [geographical] terms.**

**Figure 4.56**



The learners responded as follows: 34 learners (8.85%) responded **never**; 63 learners (16.41%) responded **rarely**; 152 learners (39.58%) responded **often**; and 135 learners (35.16%) responded **always**. The **never** and **rarely learners** constituted 25.26%; and these maintained that their subject teachers did not use the African languages in the teaching and learning activities. The **often** and **always** responses constituted 74.74%, which confirmed the statement. The implication is that learners would not be developed in terms of the use of the LoLT in respect of African languages. The assertion was based on the fact that their African languages had no developed scientific terminologies that they could use to teach these terms.

Other academic implications were that the same practitioners demonstrated their incompetency in both the LoLT and the content.

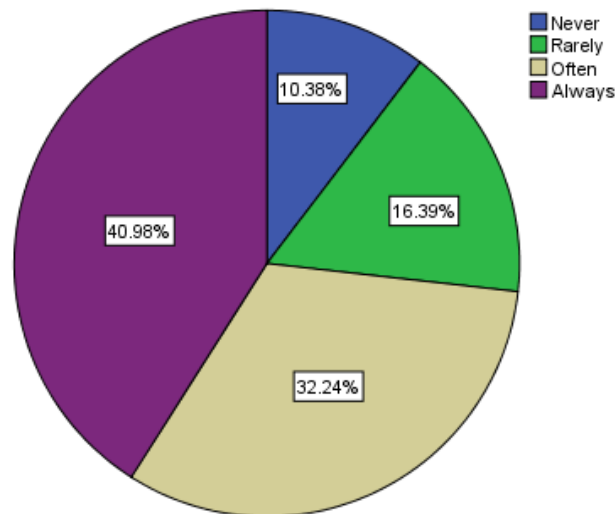
A teacher who commands content-specific language is conscious of possessing the pertinent teaching skills and strategies to employ to develop learners' conceptual repertoires, in order to maximise their knowledge. Bloch (2009:90-91) describes such a teacher as a subject-knowledge specialist, who appropriates a subject-specific linguist pertinently to the contexts. Bloch (2009:90-91) goes on to say that a content teacher who is poor in subject knowledge displays

teaching inadequacies that manifest in the employment of ineffectual teaching strategies and approaches. The latter approaches enhance optimal learner development that is talent-development oriented (Dale, Ferguson & Robin, 1988:24).

**Statement 42**

**Our teacher uses the home language for making difficult English easy for us to understand during the lesson.**

**Figure 4.57**



The learners responded to the statement as follows:

As many as 38 learners (10.38%) said that their teachers **never** practised the use of their home language when teaching them. They consistently stuck to the LoLT. A further 60 learners (16.39%) said their teacher very **rarely** adopted their respective African languages to facilitate difficult geographical words in English, in order for them to understand their lessons. The implications are that they were explained English words in English until they could comprehend the lesson through participative involvement. This meant that the learners would optimize the use of the English language in the subject (Geography).

For the **often** and **always** values, 11 learners (32.24%) and 150 learners (40.98%), respectively, indicated that their teachers used African languages under the pretext of facilitating difficult LoLT for their learners, in order for them to understand their lessons. The reality is that their teachers had no LoLT competency to utilize for the benefit of the learners. This meant that the learners were at a disadvantage in terms of subject-vocabulary growth.

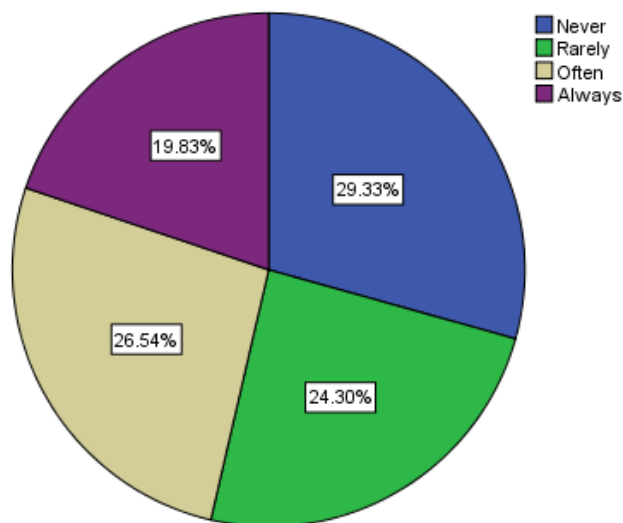
According to Sawyer (2006:302), a content teacher is considered to be in command of “operational literacy, which includes competence with the tools, procedures, and techniques involved in handling [issues] with language proficiency”. This quotation addresses statement 42, which suggests that a linguistically incompetent teacher resorts to code-switching from English into the MT. Through code-switching, the teacher violates the set content-operational rules and constructivist practices. The gist of the quotation is that Geography teaching is governed by involvement with phenomena/concrete realities in context. The manipulation of the facts by the learners forms their ideas and experiences. The conceptual and conceptual processes of learning build up/form the learners’ cognitive/metacognitive powerhouse, which entails knowledge development (Kruger & Adam, 1999:154).

Knowledge acquisition by the learner enables the learner to perform operational tasks in various contexts – through the appropriation of content-specific language.

### Statement 43

**Our teacher allows us to use our home language in class.**

**Figure 4.58**



The learners responded as follows: As many as 105 learners (29.33%) responded with **never**; 87 learners (24.30%) responded with **rarely**. Both values rejected the statement. A further 95 learners (26.54%) responded with **often**; and 71 learners (19.83%) responded with **always**. The last values were in support of the statement. The reader should note that the respondents reacted differently to statements 41 and 42, and to charts 4.56 and 4.57; where the inclination was to embrace code-switching. This demonstrated that more learners were comfortable with the LoLT, is so far as the **never** and **rarely** values were concerned. It also meant that more learners were involved in practical learning in the subject in the medium of instruction, thereby ensuring their growth in literacy. The critical implication was that learners who favoured the statements lacked consistency in terms of providing reliable data.

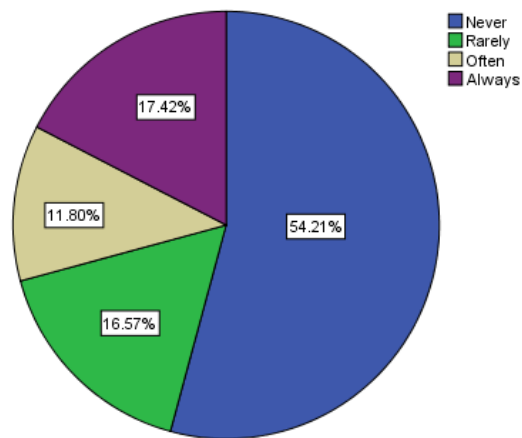
Bloch (2009:90-91) holds the view that poor subject knowledge emanates from the poor training background of the subject teachers. Bloch (2009:90-91) goes on to ascribe weak language proficiency as a barrier for content learners – especially when communicating their answers in the language of instruction in a test. This implies that those teachers, who use the home language to teach, defeat the purpose of the curriculum language; because the learners cannot grow in the

content literacy of Geography. The affected learners are unable to develop in the second language as a vehicle of learning and communication. Cotton (1995:137) holds the same view that initial poor practice perpetuates subsequent poor practice, thereby affecting the final results of learning, which is communicative incompetence or literacy incompetence.

#### Statement 44

**Our teachers get angry with us for using our home language in class.**

**Figure 4.59**



The learners' response to the above statement was contradictory; and it cast doubts as to whether they really understood the meanings underlying the different statements administered to them. The responses were captured as followed: The **never** response equalled 193 learners (54.21%); **rarely** equalled 59 learners (16.57%); **often** equalled 42 learners (11.8 %); and **always** equalled 62 learners (17.42%). The projected picture was that the statement 44 and chart 4.59 were in contrast to statement 42 and chart 4.57. The 10.28% and 16.39% indicated were not in favour of code-switching. This effectively meant that only a small fraction of the learner responses promoted communicative growth in the LoLT and subject (Geography). The implications from the contrasts pointed out above aptly indicated that English was a recognized learning barrier to the second-language learners. Hence, their inconsistency in their attitudes to the use of English was opposed to code-switching practices.

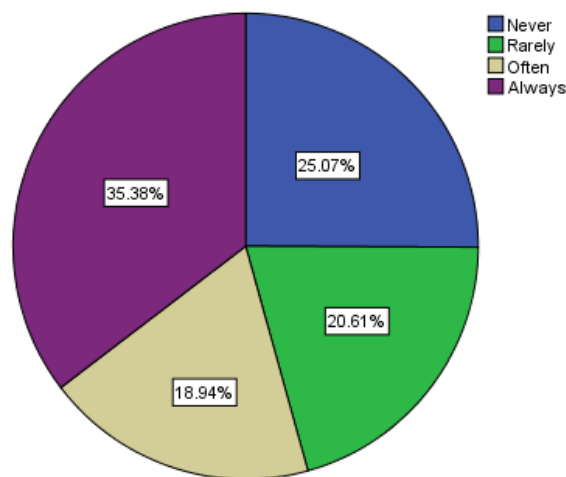
The view held by Turner-Bisset (2001:83-84) that teaching is a “knowledge-based profession” is pertinent to statement 44, which reflects the discipline displayed by a competent content teacher. The teachers described by Turner-Bisset engage their learners in English as the language of the curriculum, in order to develop their conceptual framework and language-specific competence. The cognitive/metacognitive development of such learners would not be threatened, nor compromised. The expertise of the teachers would remove or minimise any possible barriers. Macdonald (1990:177) says a proficient teacher can remove vocabulary that obscures learners from assessing the text in the textbook – by supplementing the LoLT with the user-friendly words of the MT.

In the classrooms of such expert teachers, there is no room for the dual medium of instruction at the expense of developing them in attaining content and language literacy.

#### Statement 45

**In class we talk in the home language freely**

**Figure 4.60**



The learners responded as follows: As many as 90 learners (25.07%) responded with **never**; 74 learners (20.61%) responded with **rarely**; 68 learners (18.94%) responded with **often**; and 127 learners (35.38%) responded with **always**. The **never** and **rarely** values rejected the practice of

code-switching. The **often** and **always** values affirmed the practice of code-switching in the Geography class. The affirmation of the statement was in stark contrast with statement 43 and chart 4.59. The implication was that in both statements, English was a recognized teaching and learning barrier.

Serrao (2010:6) says poor literacy in teachers emanates from their poor training. Unfortunately, it is perpetuated in the classroom; and this militates against the attainment of intended content and language literacy in terms of the learners. Van Rooyen (1990:105) says a trained teacher is aware of the special language needs – when executing content teaching. In agreement with Van Rooyen (1990:105), Turner-Bisset (2001:61) says “all learning is experiential”. The trained content teacher can select or apply familiar words; so that learners can comprehend and cope with the content.

#### **4.6.6 Interview data**

The purpose for conducting interviews was to gather data from the respective respondents on their attitudes, experiences, and teaching preferences, as well as their opinions about the barriers presented by the use of a second language in learning-teaching Geography in grade 12. The interviews were administered by the researcher; and the responses were recorded. The questions were asked and responded to in English. The interviews were conducted in a semi-formal context via interactions between the interviewer and the interviewees. The rationale for administering the interview was to validate the data obtained through other instruments (Montello & Sutton, 2013:113). The study targeted 10 different teachers from the 16 who had completed the questionnaires. Two (2) subject teachers were further interviewed about their roles as Geography specialists.

The study sought their experiences and opinions on the problem. Six schedule-based items were administered to the respondents, as contained in Table 4.6.

**Table 4.6: Interview Data**

No.	Statement focus	Pertinent response tally	Response %
1.	Teacher's role is crucial in textbook selection	<del>III</del> II	70%
2.	Code-switching from English into the mother tongue is practised.	<del>III</del> II	70%
3.	Code-switching affects geography learning and teaching	<del>III</del> II	70%
4.	Teachers' content and English proficiency are both significant in teaching-learning Geography	<del>III</del> II	70%
5.	Teachers need to develop, in order to improve learners' performance.	<del>III</del> II	70%
6.	There is a need to introduce intervention strategies to improve the pass rate in Geography.	<del>III</del>	50%

Most of the teachers interviewed recognised the importance of their role in the teaching and learning of Geography (see Table 4.6). They acknowledged that they have a crucial role to play in the selection of appropriate Geography textbooks. They indicated that they practised code-switching as a means of getting students to understand important geographical concepts. They also acknowledged that code-switching does affect the teaching and learning of Geography. Whilst it helped learners to understand the concepts; they were at a disadvantage, when it came to examinations and using textbooks; as these were done using English.

**Table 4.7 Interviews with curriculum specialists/advisors**

In providing a different perspective to that of the school-based Geography teachers, two subject advisors were interviewed to provide their experiences regarding the barriers from the perspective of the curriculum-service unit. They responded as follows:

No.	Existing barriers	Response tally	Response %
1.	Not integrating related subject matter in Geography teaching-learning situations.	II	100%
2.	Problem sections of content: <ul style="list-style-type: none"><li>- geographical concepts</li><li>- synoptic weather-map challenges</li><li>- use of conventional approach versus the constructivist approach.</li></ul>	II	100%
3.	Threats emanating from difficult textbooks: <ul style="list-style-type: none"><li>- Textbook-clarity challenges</li><li>- Language-level challenges</li><li>- Climatology challenges</li><li>- Case-study language challenges</li></ul>	II	100%

The subject advisors revealed that it is important for teachers to integrate the subject matter within the Geography-learning context. This helps learners with their understanding of the content. They indicated that integration was not taking place; and this affected both the teaching and the learning of the subject. The subject advisors were also able to identify specific problem sections within the curriculum. These were the teaching of geographical concepts and synoptic weather maps. They also stated that many teachers preferred to use conventional teaching methods, instead of using constructivist methods. The subject advisors also spoke at length about the problems related to textbooks.

Many of the challenges related to the language of the textbooks; because all the Geography textbooks are written in English; and this poses a problem for English second-language learners. Learners often need to seek clarity on definitions and concepts; according to the subject advisors; and this is where code-switching plays a major role. They also felt that proficient teachers and curriculum specialists must be able to select suitable content/material for learners; while, at the same time, the textbooks are supposed to be user-friendly. They stated that content teachers should be trained to address the challenges that the subject presents. The subject advisors suggested team-teaching as a solution that could be employed to solve problems, such as climatology and synoptic weather-map challenges; especially for teachers who are not competent in these sections.

They also emphasized the need for learners to be familiar with case studies, in order to develop abilities in application, translation, interpretation, analysis, synthesis, extrapolation and evaluation. This is supported in the literature; where it is stated that developed abilities should be interlaced with crucial learning skills, such as the identification of key words linking ideas and carrying meaning in a passage of the text (Tierney, Readence & Dishner, 1995:394-396).

## **4.7 DISCUSSION OF THE RESULTS**

### **4.7.1. Introduction**

This section discusses the results that were obtained from the data-collection instruments employed. Each problem was probed by a specific barrier-oriented statement. The responses were reflected in figures to the respective statements. These were then quantified in percentages, which either confirmed, or rejected the finding as a barrier. The four identified barriers were in specific reference to the second-language Geography learner in the teaching-learning context. The discussion of the results on the barriers in focus was done for the purpose of drawing conclusive evidence that the barrier(s) actually existed. An overview of the pertinent barriers investigated in the study follows.

#### **4.7.2. Overview of the barriers presented by using a second language for teaching and learning Geography.**

The study established that the teacher is the pivot around which all barriers in teaching-learning revolve. The teacher could be a barrier to learning-teaching if s/he fails to demonstrate content-based knowledge of Geography. This is supported by Turner-Bisset (2001:88-84), who stated that teaching is a “knowledge-based profession”. This means that the teacher is a master of knowledge or content knowledge; and s/he is required to impart this knowledge to the learners, in order to optimise their content knowledge. The optimising of this knowledge is often evident beyond the classroom context. This occurs when learners become professionals in their own right in various pertinent Geography-related fields.

On the contrary, the teacher’s non-competence of the content knowledge is evident when the teacher cannot rise above that of the textbook, which is merely a teaching aid. According to Howell and Lazarus (2003:5), the teacher should not be subservient to the textbook; but the textbook should be a tool manipulated to suit the learner’s needs. Leat (2002:109-111) chides teachers who are over-reliant on textbooks, thereby compromising the constructivist approach that requires learners to construct their own meaning from their interaction with the learning material. Naidoo (2006:9), agrees with Howell and Lazarus (2003:5) and Leat (2002:109-111) by saying that expert teachers master the content, in order to facilitate the learning from difficult textbooks.

Another challenge faced by the second-language learner in Geography is the practice of a dual medium of instruction in some schools. Its manifestation is in code-switching from English into the mother tongue (MT). This practice emanates from wanting teachers to have knowledge in the specific language, which is used as the medium of instruction. Breidlid (2003:83) says that curriculum-challenged teachers are tempted to hide their weakness in curriculum-specific language behind code-switching. Hooijer and Fourie (2009:135-151) attest to the view held above by confirming that geography is a subject that is characterised by the use of English in all its forms. If the Geography teacher is not competent in English, this spells disaster for the second-language learner in terms of the attainment of Geography and English literacy.

Radnor (2002:14), Sawyer (2006:30) and Saligmann (2011:13) sum this up by saying that English forms one of the critical barriers to the second-language learner in the Geography teaching-learning context. This becomes evident when the second-language learner struggles to understand the subject-specific concepts; because they are beyond their level of conceptualisation and contextualisation. Further manifestations are observable, when second-language learners are unable to interpret and infer information from given passages of the textbooks – due to the difficult wording of the textbook.

#### 4.8. RESULTS OF THE STUDY ON BARRIERS

Having indicated in the deliberation above how the barriers were highlighted, this section analyses the results on the specific barriers indicated in 4.6. The results are shown in Table 4.7.1 in the following format:

Table 4.7.1 presents the barrier number (no), the category of respondents to the barrier, the number of respondents, the number of missing respondents, a description of the barrier (in focus), the number of the statement probing the barrier, statement affirmation, statement rejection, missing results in percentages, and the remarks column.

**Table 4.8.1. Barrier 1: The content teacher is considered a barrier to the second language learner’s teaching-learning in geography**

No. of Respondents	No. missing	No. of statement probing barrier	Statement affirmed %	Statement rejected %	Missing %	Remarks
16	-	1	100%	-	-	-
16	-	2	68.75%	31.25%	-	-
16	-	3	50%	50%	-	-
16	-	4	31.25%	62.50%	-	Constructivist
16	-	5	87.50%	12.50%	-	-
16	-	6	56.25%	43.75%	-	-

16	-	7	68.80%	31.20%	-	-
15	1	8	93.75%	-	6.25%	-
16	-	9	93.75%	6.25%	-	-
16	-	10	100%	-	-	-
16	-	11	100%	-	-	-
16	-	12	75%	25%	-	-
16	-	13	87.50%	12.50%	-	-
16	-	14	81.25%	18.75%	-	-

The content teacher as a barrier to the second-language learner’s teaching-learning in Geography is reflected in Table 4.7.1. This barrier was probed by fourteen (14) statements addressed to the teachers. The statements were posed to the teachers to validate the assertions by the researchers, such as Turner-Bisset (2001:83-84) who profess that teaching is “a knowledge-based profession”; but the moment that the teachers no longer live by this dictum, they become a barrier to teaching-learning. This compromises the knowledge attainment of the content of Geography for the second-language learner.

Bloch (2009:90-91) maintains that inadequacies in the teacher, such as poor Geography subject knowledge and teaching practice prevents the Geography teacher from doing meaningful teaching, which subsequently results in ineffective learning. Howell and Lazarus (2003:5) say that the teachers act as a barrier to learning for the second-language learner – by failing to supplement the contents of difficult textbooks, which are written in English.

Therefore, the teacher as a barrier to the second-language learner is demonstrated by statements 1-3 and 5-14, which confirmed that the teacher is a barrier to the second-language learner in Geography. Only the results of statement number 4 rejected the statement.

**Table 4.8.2 Barrier 2: The level of English textbooks is a barrier to second-language learners in the Geography teaching-learning contexts.**

No. of Respondents	No. missing	No. of statement probing barrier	Statement affirmed %	Statement rejected %	Missing %	Remarks
407	-	15	65.0%	35%	-	-
407	-	16	83.78%	16.22%	-	-
407	-	17	74.69%	25.31%	-	-
407	-	18	49.39%	50.61%	-	-

- For statement 15, the barrier was confirmed by a majority. The study claims this on the basis of the assertion by Essien (2010:34), was supported by Setati (2011:11), that the content written in English and taught in English is considered a barrier to English second-language learners. Despite the fact that they carried out their research in maths; Geography is no exception; since Hooijer and Fourie (2009:135-151) state that second-language learners face learning challenges in Geography because the subject uses English as a medium of instruction. Therefore, the claim that the level of English textbooks is a barrier to second-language learners is validated by 65%.
- Statement 16 focused on the factor of rural schools, which constituted 83.78% of learners, whose schools were situated under that category. According to Benson, Heagney, Hewitt, Rosling and Devos (2013:85), rural-situated schools can influence second-language learners in terms of the literacy level of the families. The resources in context and expectations may not be sufficient to enhance the learners' performance. That is, the question of the lack of parental literacy level may not contribute to the desirable literacy level to influence learners' performance. Engelbrecht, Green, Naicker and Engelbrecht (1999:48) agree that "the psychosocial environment of a school can act either as a barrier to, or an opportunity for, learning and development". It is therefore deduced that learners in rural communities

struggle on their own with difficult textbooks, without any help from their illiterate parents at home.

- Statement 17 should be viewed in terms of the views of Cavanagh (2007:13) and Ho (2010:20) that Geography is an integrated/geoscience subject. It is expected to be handled by expert content teachers in the specialized sections, in order to benefit the learners. The findings reflect that 74.69% of learners are taught many sections of the Geography curriculum by a single teacher, who might not be a specialist-subject teacher. The concern is echoed by Leat (2002:109-111) that some Geography teachers rely only on the textbooks at the expense of the constructivist approach, which enhances effective learning. Howell and Lazarus (2003:5) warn in this regard that the subject teacher may be subservient to the textbook, thereby denying learners any proper learning opportunities. Deducing from the arguments advanced above, the textbook-based barrier was confirmed.
- The discussion for statement 18 was approached in the same way as statement 17. The reason is that if some school teachers used one textbook, as is reflected in the 49.39% affirming statement 18, this becomes a concern. Although the statement was rejected, it should be noted that the margin is very narrow (1.22%). By implication, the use of one textbook compromises knowledge growth in Geography learners. Vermeulen (2000:105) puts it aptly that a geography teacher lacking in geography-specific language deprives learners of the opportunities to grow in their conceptual knowledge. Cavanagh (2007:13) and Ho (2010:20) recommend that more than one teachers should teach geography; because it is an integrated/geoscience subject that needs joint manpower to satisfy all the sections, and to accomplish learners' maximum development in the subject.

**Table 4.8.3 Barrier 3: English is a recognised barrier to second-language learners in the context of Geography**

No. of Respondents	No. missing	No. of statement probing barrier	Statement affirmed %	Statement rejected %	Missing %	Remarks
361	46	19	30.72%	57.99%	11.29%	-
370	37	20	58.27%	32.70%	9.03%	-
359	48	21	48.90%	39.31%	11.7%	-
375	32	22	66.59%	25.55%	7.8%	-
358	49	23	41.28%	46.68%	12.04%	-
357	50	24	36.61%	51.11%	12.28%	-
359	48	25	44.72%	43.49%	11.79%	-
357	50	26	17.20%	70.51%	12.29%	-

It is striking to realise that out of 8 statements probing the barrier in Table 4.7.3, only statements 20 and 21 confirmed that English is a recognised barrier for second-language learners. It is contrary to the findings of Essien (2010:34) that Geography second-language learners are conceptually and linguistically challenged. It could be argued that the learners' rejection of the barrier by the rest of the statements could be based on two factors. These are the ignorance and bias factors. It could be out of ignorance that they did not recognise the linguistic consequences entailed in the difficult medium of instruction that the language posed to them as second-language learners in the context of Geography.

On the bias factor, James, Milenkiewicz and Bucknan (2008:68) say that the employment of the qualitative method for gathering evidence regarding the investigation could result in respondents suspecting the intentions of the research in seeking the evidence from them. They may subsequently withhold ideas/feelings from the researcher. It could be that their ideas or feelings

might be threatened by the sensitiveness of their conception of integrity; or they might have the conception that their failure to understand English would be viewed as humiliating by others. Subsequently, the responses militated against the researcher’s intentions for this statement.

Having indicated the possibility of the said factors of ignorance and bias, the study reconciled the barrier of English in terms of the attitudes and feelings of the learners with those of the Geography-subject teachers. The teachers maintained in 4.7.4 that English is a recognised barrier for second-language learners in the context of Geography learning.

**Table 4.8.4 Barrier 4: English is a recognised barrier to second-language learners in learning-teaching in the context of Geography learning (teacher’s views)**

No. of Respondents	No. missing	No. of statement probing barrier	Statement affirmed %	Statement rejected %	Missing %	Remarks
16	-	27	75%	25%	-	-
16	-	28	62.50%	37.50%	-	-
16	-	29	56.30%	43.70%	-	-
16	-	30	75%	25%	-	-
16	-	31	56.20%	43.80%	-	-
16	-	32	81.20%	18.80%	-	-

English is a recognised barrier to second-language learners in learning-teaching Geography contexts, as reflected in Table 4.7.4, This is constituted by statements 27-32, which addressed teachers on the said problem. All the statements confirmed the presence of the barrier, and how it impacted on the second-language learner in the learning-teaching context. Its nature of being a barrier for second-language learners in Geography is reconciled with Tables 4.7.5 and 4.7.6, which both entail the practice of code-switching from English into the MT in the Geography classes of the second-language learners.

**Table 4.8.5 Barrier 4: Code-switching from English into vernacular languages presents as a barrier to second-language learners in Geography contexts**

No. of Respondents	No. missing	No. of statement probing barrier	Statement affirmed %	Statement rejected %	Missing %	Remarks
16	-	33	75%	25%	-	-
16	-	34	56.20%	43.80%	-	-
16	-	35	31.25%	68.75%	-	-
15	1	36	43.80%	50%	6.25%	Conversely, 50% affirms code-switching
16	-	37	62.50%	37.50%	-	-
16	-	38	37.50%	62.50%	-	Contradicts 37%
16	-	39	50%	50%	-	-
16	-	40	75%	25%	-	-

The claim of code-switching from English into the vernacular languages presents as a barrier to second-language learners in Geography contexts. This was addressed to the teachers by eight statements numbered 33-40. Statements 35 and 38 rejected the barrier of code-switching; while statement number 33, 34, 36, 37, 39 and 40 confirmed the barriers' presence/prevalence in the Geography teaching-learning contexts. It was noted that the rejection of the barrier by statement 38 was contradictory to statement number 37. The implication is that if the teachers confirmed statement 37, there was no way that statement 38 would be rejected. It can be argued that an element of bias came into play here (James, Milenkiewicz & Bucknan, 2008: 68).

**Table 4.8.6 Barrier 4: Code-switching from English into mother tongue deprives second-language learners the opportunity to grow in English and Geography literacy**

No. of Respondents	No. missing	No. of statement probing barrier	Statement affirmed %	Statement rejected %	Missing %	Remarks
384	23	41	70.52%	23.83	5.65%	-
366	41	42	65.85%	24.08	10.07%	-
358	49	43	40.80%	47.17	12.05%	-
356	51	44	25.55%	61.92	12.53%	Conversely, 61.92% affirm code-switching
359	48	45	47.92%	40.29	11.79%	-

Table 4.7.6 reflects the data results on code-switching from English into a mother tongue. It is argued that this deprives second-language learners of the opportunity to grow in English and Geography literacy. Table 4.7.6 is constituted by five statements numbered 41-45. Of the five statements probing the barrier, three statements numbered 41, 42, 44, and to a relative degree statement 45, confirmed that code-switching is prevalent in Geography learning-teaching contexts. Only statement 43 rejected the existence of code-switching in Geography classes.

In conclusion, the findings from Table 4.7.6 will be dealt with in Chapter Five, in which the conclusions, recommendations, suggestions for further research, and the limitations of the study, as well as the contributions made by the study will be discussed.

#### **4.9. SUMMARY ON BARRIERS-BASED RESULTS**

In this summary, the barriers presented by the use of a second language in the learning-teaching of Geography in grade 12 in the Limpopo Province were investigated.

The barriers we categorised, according to their respective respondents as follows:

##### **4.9.1. Barrier-based objective 1: Teachers**

**The content teacher is considered a barrier to the second-language learner's teaching-learning in the geography contexts.**

The barrier was probed by 14 statements. All but four statements confirmed that the Geography teacher constitutes a barrier to the second-language learner's learning of geography. The results that confirmed the existence of the barrier were quantified – with 66.4% indicating the existence of the barrier.

##### **4.9.2. Barrier-based objective 3: Teachers**

**English is a recognised barrier for second-language learners in learning-teaching Geography contexts.**

The barrier was probed by six statements numbered 27 to 32. All the statement results confirmed that English is a barrier for the second-language learner in Geography-learning situations. The results were quantified as 67.71% confirming the prevalence of the barrier.

##### **4.9.3. Barrier-based objective 4: Teachers**

**Code-switching from English into the vernacular languages presents as a barrier for second-language learners in Geography contexts**

The barrier was probed by eight statements. Six statements 33, 34, 36, 37, 39 and 40 confirmed the existence of the barrier, quantified by 61.45% of the respondents.

#### **4.9.4. Barrier-based objective 2: Learners**

**The English of the textbook is a barrier for second-language learners in the learning-teaching of Geography**

The barrier was probed by the four statements 15-18. Statements 15-17 confirmed the prevalence of the barrier, which were quantified by 74.49% of the respondents.

#### **4.9.5. Barrier-based objective 3: Learners**

**English is a recognised barrier for second-language learners in Geography learning-teaching contexts.**

The barrier was probed by eight statements numbered 19-26. Only two statements, 20 and 22, confirmed that the barrier existed. Statements 19, 21, 23-26 rejected the statement that English is a barrier to second-language learners' learning of geography. The study points out that the rejection of the existence of the barrier is contrary to the affirmation of the barrier by their teachers under 5.3.4. The teachers validated the existence of the barrier (100%). However, the researcher advanced an argument for the rejection of the barrier by the learners.

#### **4.9.6. Barrier-based objective 6: Learners**

**Code-switching from English into the vernacular languages deprives second-language learners' opportunities for maximising Geography knowledge and language literacy**

This practice emanated from the manifestation of English as a barrier to second-language learners in the learning-teaching of geography. On the whole, with particular reference to the latter argument, all the barriers investigated in the study are in existence: their presence is a cause for concern; because they hinder the Geography/content learners from accomplishing content-specific learning by using the medium of instruction (English).

### **4.10 SUMMARY OF CHAPTER**

The researcher used specific tools to address the prevalent barriers to Geography learning and teaching in grade 12 in the Limpopo Province. The research findings confirmed the following: Firstly, the Geography subject teachers' proficiency was questionable. Secondly, the LoLT was

found to be a barrier to both the subject teachers and the learners. Thirdly, the textbook was found to be a challenge to the second-language learners when used independently without the aid of the subject teacher. Fourthly, the code-switching practice from the LoLT into the home language impacted on the learners' acquisition of literacy in the LoLT in Geography. This resulted in learners failing to communicate effectively and intelligibly in the LoLT in examinations. The respective tables and figures shown above on the respective statements based on the barriers have substantiated the rationale for undertaking the study.

## **CHAPTER 5**

### **SUMMARY, RECOMMENDATIONS, CONCLUSION**

#### **5.1. INTRODUCTION**

This chapter rounds off the study by presenting a general view of the investigation into the problem of barriers presented by the use of a second language in teaching and learning Geography (second-language learners) in grade 12 in the Limpopo Province. In investigating the problem, the study had objectives to realise; and they were to determine: the link between the content teacher's qualification and his/her influence on teaching the whole curriculum to the second-language learners, in order to optimise the content knowledge; secondly, the impact of the second language (English) on second-language learners' learning in terms of the level of comprehension of the content and the medium of instruction; thirdly, the impact of the level of the textbook language (English) on the linguistic literacy level of the second-language learners in terms of readability and comprehensibility to/by the learner in geography contexts. This is dependent on the content-specific knowledge and the level of literacy of the teacher: either to enable or to compromise the learner's growth in both the content and the second language (English).

The research questions were: Firstly, is there a link between the content teacher's proficiency and effective teaching in geography contexts with special reference to the second-language learner?

Secondly, does the second language of instruction (English) deter the second-language learners from comprehending the content in terms of the learners' communicative competence? Thirdly, does the level of English in the content of the textbooks challenge the second-language learners? Fourthly, does the Geography teacher encourage the practice of code-switching from English to the vernacular languages – at the expense of the second-language learners' literacy attainment?

The brief of the findings is presented under the general view of the study, followed by conclusions of the study, and recommendations based on the findings from the study, which was based on the problem of the study with particular reference to the solution of the problem, on the assumption that further research on the findings of the study will be made. In the final conclusion

to the study, the limitations of the study are discussed, together with the contributions the study has made to enrich the teaching and learning of Geography for English second-language learners.

## **5.2. RESEARCH DESIGN AND METHOD**

The researcher used the constructivist approach, which advocates the laying of emphasis on the actual learning and teaching – revolving around the learner as the central figure. The researcher used the survey method, whereby specific questionnaires were constructed for specifically addressing the respective respondents, in order to elicit the data in terms of the question that the study has addressed. The implementation of the specific tools was aimed at assessing the attitudes and perceptions held by the subject teachers in terms of their teaching, and the value of the curriculum of Geography in the lives of the learners – and their future impact on the welfare of the nation at large.

In terms of the concept attitudes, the researcher wanted to ascertain what methods the teachers had used with the rationale of employing their preferred teaching methods in the learning environment of Geography. The study employed the qualitative and quantitative methods to gather the data, in order to address the barriers that exist in the teaching and learning of Geography for English second-language learners.

## **5.3 OVERVIEW AND CONCLUSIONS OF THE STUDY**

In Chapter One, the barriers were identified through the use of a second language in teaching and learning Geography in grade 12 in the Limpopo Province. The purpose of this was to redress the poor performance. The need for improvement in performance necessitated the employment of the constructivist teaching and learning approach in Geography. This was a shift from the practice of a conventional/traditional teaching approach, as used previously in Geography environments. The adoption of an effective constructivist teaching and learning approach was illuminated in the theoretical framework in Chapter One.

The study focused on the teaching and learning of Geography for second-language learners by drawing from the conceptual and theoretical framework advocated by Piaget, Dewey and the adherents of constructivism. For the learners, the study espouses the constructivist-based mind-map that the content teacher must strive to achieve, in order to realise effective learning in

Geography. All their teaching efforts must be channelled towards the attainment of the necessary Geography knowledge and skills, in order to develop a self-sufficient second-language learner. The study attempts to remove the existence of the barriers by the employment of a constructivist approach – underpinned by the co-operative, active, participative and experiential learning methods.

The barriers were presented as: The geography teacher is seen as a barrier in teaching second-language learners; the textbooks are also a barrier for second-language learners in terms of their readability and comprehensibility level with regard to second-language learners' literacy level; English is a recognised barrier for second-language learners, as the content vehicle and medium of instruction in relation to learner's communicative competence; and the code-switching practice from English into the vernacular languages in teaching and learning Geography prevents second-language learners from attaining Geography-specific language literacy.

The study attempted to draw the data on the study barriers from the participants' views, attitudes, experiences and perceptions to/of teaching and learning practices in Geography situations. The responses were elicited by the employment of barrier-based or probing statements addressing specific participants. Table 4.7.1 presents the findings from the respective barrier-based statements, quantified in percentages – to affirm or reject the existence of each barrier in the study.

The Geography teachers' qualifications and experience in teaching the content were probed; and the responses were quantified in Figures 4.4, 4.5 4.6 and 4.7. The staffing for geography was captured in Figure 4.8. The three factors were considered critical and consequential in terms of their class-based practices or geography teaching-learning methods. The findings revealed that conventional teaching methods prevailed in geography contexts, thereby compromising constructivist teaching-learning approaches. The absence of the constructivist learning-teaching practices validated the existence of the identified barriers referred to above.

Barrier-specific questionnaires, underpinned by barrier-probing statements, were used to gather the relevant data on the problem of the study. The focus was on teaching and learning practices in Geography contexts alluded to above. The practice of Code-switching was confirmed by both the teacher and learner respondents. The latter practice implied that Geography teachers' use of

code-switching when presenting the content made the second-language learners vulnerable in terms of attaining content-specific knowledge in Geography. The challenges posed by the textbook alluded to earlier signified that content teachers were forced into code-switching; because they could not supplement the difficult concepts found in the textbooks. Resorting to code-switching did not help the second-language learners, however, because African languages have not yet developed any geographical corpus of terms.

The subject advisers in their interviews corroborated with the findings from teacher and learner respondents that the barriers in focus existed in real-life Geography contexts. The subject advisers made recommendations that embraced the employment of the constructivist approach to improve learners' performance in Geography. The shortage of Geography teachers was one of the findings that was concerning. As many as 43.7% of the teacher-respondents indicated that one teacher in the school was responsible for teaching the whole Geography curriculum. This suggested that Geography was not recognised as an integrated subject belonging to the Geosciences. The evidence from Figures 4.16 to 4.18 indicates strongly that 'section-challenged' teachers (only competent to teach certain sections of the curriculum) left their learners helpless regarding those sections of the curriculum in which they were not competent.

Over and above the fact that some Geography teachers did not meet the curricular needs, the question of under-qualified and unqualified teachers in Geography, as found in Figure 4.5, had a further negative effect on learners' performance. The study concludes that the constructivist approach and its related active-learning methods are essential for producing learners with geographical career-oriented knowledge.

#### **5.4 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS**

The researcher's focus of the study was on the four (4) objectives stated individually and logically as follows:

**Objective 1:** This was aimed at addressing Geography subject teachers. It constituted 14 statements. The statements probed the teacher's proficiency in terms of Geography teaching and its respective challenges. A fair response amount of between 6.25 % and 50% conceded that

some subject teachers were lacking in their proficiency in terms of meeting maximally all the needs of the curricular sections, in order to effect the good performance of learners in Geography. Therefore, it was inferred that teacher proficiency in Geography was a barrier to learning and teaching in the Limpopo Province.

**Objective 2:** This probed the subject learners, with specific reference to the experiences with the Geography textbooks as a learning barrier. The learners responded to four statements. The results to the statements ranged from 49.3% to 74.9% in the affirmative. The findings confirmed that textbooks were a recognised barrier to their learning with regard to the difficulty of the LoLT.

**Objective 3:** The respondents in this regard were teachers and learners. The objectives focused specifically on English as the language of learning (LoLT) and teaching. Firstly, the statements numbered 19-26 probed learners on how they perceived the LoLT, in terms of acquiring information and knowledge from the lessons taught by the teacher and the assessment within the learning situation. The learners' responses ranged from 17.2% to 66.6% in recognition of the LoLT as a learning barrier. Secondly, the 16 subject teachers reacted to statements 17-32 on the question of the LoLT as a teaching and learning barrier in Geography. The teachers' responses confirmed that between 56.3% and 81.3% of the teachers indicated that the LoLT was a recognised teaching and learning barrier in the Geography learning environment.

**Objective 4:** The participants were both the teacher and learner respondents, as well as the CAs. The focus of the objective was on the code-switching practice in Geography teaching and learning environments.

Firstly, statements 33-39 were administered to 16 teachers, probing how they practised code-switching in their teaching and learning activities. The responses were that 31.3% to 75% of teachers confirmed that code switching was used by Geography subject teachers under the pretext that they practised it to facilitate the difficult LoLT and the textbooks, so that learners could learn more easily. However, it would eventually impact negatively on their performance in examinations. Secondly, statements numbered 40-45 were administered to the learners. Their results confirmed that between 25.5% and 70% of learners indicated that their Geography subject teachers initiated code-switching from the LoLT into their African languages in their teaching and learning activities. Therefore, code-switching was confirmed as a teaching and learning

barrier, which was eventually detrimental to their LoLT development. This could possibly impact on the literacy growth level in both the LoLT and in Geography.

## **5.5 RECOMMENDATIONS**

Geography teachers should continually seek for ways to improve their content knowledge. This can be done through in-service training or through short courses in areas where they lack content knowledge. Since the curriculum has changed significantly over the last few years, it is crucial for them to upgrade their content knowledge. Furthermore, this study urges the curriculum authorities to recognise Geography as an integrated subject that belongs to the geosciences curriculum. The maths-oriented sections of the content must be taken care of by competent mathematicians. And, the same goes for agricultural science, biology/life sciences and chemistry-based sections of the geography curriculum.

This integrated-subject approach should redress some of the findings of this study, as presented and subsequently discussed (in Table 4.7.1). The study recommends to the stakeholders of Geography not to only focus on improvements for the sake of academic results, but to consider the future careers of these learners as well.

Based on the findings of the study, the following recommendations are made:

### **5.5.1 Provincial curriculum section/unit**

The curriculum unit should, as a matter of policy, proclaim a vision and mission statement that is fashioned around being able to mould future Geographers via effective and efficient teaching and learning strategies at all curricular levels. They should adopt and implement an integrated subject approach, driven by curricular teamwork teaching, through the use of the constructivist approach. This policy should be communicated to units at district and circuit levels. The overseers should monitor threats to learner performance and minimise/remove them through regular in-service training of the Geography teachers, supervised and monitored by the curriculum advisers. This approach/measure could eradicate the ineffective teaching that this study found.

### **5.5.2 Advisory structures at district and circuit levels**

The districts and circuits should distribute sufficient resources to schools, in order to facilitate the implementation of the expected quality teaching to redress the barriers discussed. Geography expert teachers should take care that the entire geography curriculum is effectively and efficiently managed. The poorly performing teachers should be serviced by utilising the services of the universities at their disposal to redress poor performance. The expert teachers should take contextual threats like pedagogical and psychosocial factors into consideration, and vigorously address them, in order to redress the poor performance of learners in the districts.

### **5.5.3 School curriculum management/structure**

The school curriculum team/overseers should have a plan to realise the vision and mission statement of the Geography curriculum. They should be mindful of the fact that Geography is an integrated subject. They should allocate the relevant expertise for Geography, in order to maintain a balanced teaching staff to meet all the curricular challenges and needs of the subject at the school. The Geography ‘manifesto’ of the school should be pursued to produce self-sufficient Geographers in different Geography career paths. To attain this, they should employ active teaching-learning practices which underpin the constructivist approach.

In pursuit of this goal, effective monitoring and assessment processes should be thoroughly implemented.

### **5.5.4 The geography teacher(s)**

School-based teachers must realise that they are prime curriculum implementers and assessors of all the learning activities. It is incumbent upon them to conceptualise and contextualise the vision and the mission of the curriculum. Therefore, they must initiate self-development and regular knowledge updates, in order to keep abreast of new teaching innovations and techniques, which are Geography-specific. They must have a well-defined conceptual framework; so that learners’ development can be accomplished at their school. Therefore, they must have geographical blueprints for teaching – to realise their learners’ cognitive and metacognitive skills.

These skills’ development can only be realised through the teacher’s mastery of the subject content. The teacher must be able to scan textbooks thoroughly before selection. The textbook

selection must be guided and directed by Geography-specific criteria comprising, inter alia, the readability, comprehensibility and sustainability in terms of the linguistic level of the second-language learners. Over and above that, the Geography teacher must have the necessary expertise to supplement the textbook, as well as to augment knowledge wherever it is deemed necessary.

Teachers can only do this if they know their subject requirements. A knowledgeable subject teacher knows that no textbook is perfect and can be completely relied on. A Geography teacher must be assertive and consultative, and have the ability to supplement the textbook, in order to have effective teaching that promotes effective and meaningful learning in the learners. Since English is used as the medium of instruction, in order to attain the espoused literacy, the teacher must embrace the constructivist approach interlaced with co-operative, participative and experiential learning. Such learning strategies should enable the learners to tackle case-study passages, in which the learner can discover hidden meanings behind the words and phrases.

This discovery can be made by teachers as well, who equip themselves through self-development. The teacher who employs the constructivist approach develops the learners to be able to predict questions when doing independent learning, who can organise their learning material meaningfully, can rehearse answers to the predicted questions, can grasp concepts in English, and can evaluate their own learning, to redress personal challenges, before sitting for assessments, either orally or in writing.

Informed geography teachers must be aware that, in order to enhance good performance in the learners, they must perform their core business of deepening their own geographical knowledge through constructivist learning techniques. When geographical context-related teaching takes place, the learners should be able to translate texts using their own content-specific vocabulary without instructional help; they should be able to synthesise data/information in context; they would be able to deliberate on given issues in various contexts; they would be able to interpret the data in their own language, and be able to extrapolate the data beyond contexts into related contexts meaningfully, be able to evaluate material, be skilful analysts of the learning material; and furthermore, they should be successful in applying that knowledge to pertinent geographical contexts – and beyond to the related contexts of life experiences.

## **5.6. CONTRIBUTIONS OF THE STUDY**

5.6.1. The researcher would like to conscientise the DoE in the province to work closely with tertiary institutions to develop the provincial African languages to the level of being mediums of instruction in their own right in the schools. This should assist as a permanent redress of the use of code-switching from English into the respective African languages, which have a dearth in specific scientific terminologies, and which consequently compete with English. The status quo was viewed by the researcher as being unfair linguistic competition contrary to the pronouncement by the Constitution that these languages should be treated equally as official languages of the country.

5.6.2. The DoE in the Limpopo Province should also realign their curricula in terms of recognizing Geography as one of the geosciences with the intention of producing pertinent artisans, technologists and engineers to commensurate the needs of the local mining undertakings in the province. This could curb the importation of expertise at the expense of the locals, who, due to lack of qualifications in these scarce-skills jobs, contribute to perpetuating unemployment, crime, poverty and other social ills.

## **5.7 LIMITATIONS OF THE STUDY**

The researcher experienced a number of challenges, as follows:

- Some subject teachers lacked a sense of urgency in terms of completing and returning the questionnaires within a reasonable time;
- The researcher experienced a number of postponements at some schools before the questionnaires could be responded to, or which were not returned;
- Subject teachers at some schools were unwilling to present their workbooks/assessment records to the researcher for observation/analysis purposes;
- Some district senior managers did not respond to the researcher's formal request for permission to enter their circuits to conduct research at (their) schools;
- Some circuit managers were not welcoming towards the researcher concerning entering their schools to conduct research;
- The study could not access the examiners because of examination confidentiality and security reasons.

- Geography subject markers declined to participate in the data-gathering processes.
- School-based documents were not made available to the researcher for perusal.
- The study experienced biases from the respondents to some statements, due to sensitive perceptions they had, such as security threats for teachers and subject advisors, integrity threats for learners in terms of their limited literacy-level revelations.
- The teacher respondents were uninformed of their professional obligations towards providing the data to the researchers in the interest of their own wellbeing and that of their learners.

These factors could possibly act as limitations of this study; since they may have affected the findings of the study.

## **5.8 SUGGESTIONS FOR FURTHER RESEARCH**

- 5.8.1 The study suggests that the recognition of the teacher as a barrier in Geography contexts should be looked into; as it is deemed to impact negatively on learners' performance.
- 5.8.2 Research on how curricular team-teaching structures at school level can be put in place to bring about improved performance in Geography.
- 5.8.3 Research into declaring Geography as an integrated subject with maths, agricultural science, chemistry and biology/life science (geosciences), whose combination would raise the performance levels.
- 5.8.4 Research on how constructivism can be weighed against conventional theory in terms of the current results in learning-teaching Geography contexts.
- 5.8.5 An examination of the value of Geography-advisory services in terms of the content-based current results in grade 12.

## **5.9 CONTRIBUTION MADE BY THE STUDY**

In spite of the challenges that affected the conduct of this study, this investigation is considered to be the first of its kind; because it was able to illuminate the barriers of learning and teaching in Geography in grade 12 in terms of the second-language learners in the Limpopo province. The study advocates the formation of an integrated-subject structure comprising Geography, maths, agricultural science, life sciences and physical sciences. The formation of an integrated-subject structure is based on the fact that Geography is a geoscience; and its teaching and learning

should be integrated. This advocacy is informed by the findings of the study in Chapter Four and the discussions of the results in Chapter Five.

The teachers are advised to teach their learners with the future orientation of producing knowledgeable self-sufficient geographers. Content learners must be enticed through the constructivist learning approach to qualify as geographers in specific future career paths. This study is informed by economic factors to provide the needed Geographers in relation to the rich mining enterprises/explorations in the Limpopo Province. The study conscientises the content teacher that all learners in different Geography contexts deserve instructional help from a competent teacher to enable them to learn independently, in order to optimise their content knowledge. This should assist learners in their future career paths.

#### **5.10 CONCLUDING REMARKS**

The findings of this research study have indicated to the researcher that the subject teachers of Geography in general have not been teaching their respective learners in the most effective way in terms of satisfying optimally all the prescribed sections of the syllabus, as expected of them, to produce knowledgeable Geographers. In fact, it was found that most of the subject teachers taught geography to learners as just carrying out their narrow professional mandate – without a clear-cut specific vision and mission of learning and teaching of the subject. A case in point was their embracing of the local African languages in the place of the LoLT. They used this to address their linguistic incompetence in English on the pretext that they did it to facilitate the learning, because of the difficulty of the LoLT. This was a manifestation of a professional catastrophe for learners who would eventually sit for their examinations, unprepared to answer in English, when answering the question papers. This is a professional weakness, despite their knowledge that learners could not use the local African language when answering questions.

By doing this, these teachers were not committed to professional accountability. These teachers deliberately failed the learners by not sticking to the curricular policies governing the teaching of Geography. With these remarks, this study comes to a conclusion.

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## APPENDIX A: TEACHERS' BIOGRAPHIC INFORMATION

**Instruction: Mark with X in the appropriate box.**

### ACADEMIC QUALIFICATIONS IN ENGLISH

Matric	Degree	Honours	Masters	PhD
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### ACADEMIC QUALIFICATIONS IN GEOGRAPHY

Matric	Degree	Honours	Masters	PhD
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### PROFESSIONAL TRAINING LEVEL ATTAINED IN ENGLISH TEACHING METHODOLOGY

College Diploma	HED
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### PROFESSIONAL TRAINING LEVEL ATTAINED IN GEOGRAPHY METHODOLOGY

College Diploma	HED
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### GEOGRAPHY TEACHING EXPERIENCE (IN YEARS)

1-5	6-10	11-15	16-20	21-25	26-30+
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**APPENDIX B: SEMI-STRUCTURED INTERVIEW SCHEDULE**

1. Why is the Geography teachers' role crucial in the selection of the subject textbooks?
_____
_____
2. What encourages code-switching practice from English into the home language in the Geography class?
_____
_____
3. How does code-switching practice from English into the home language affect Geography learning?
_____
_____
4. What is the significance of the teachers' proficiency in both English and Geography learning situation?
_____
_____
5. In your opinion, how should Geography teachers develop to improve learner performance?
_____
_____
6. What intervention strategies do you suggest to teachers to improve pass rates in Geography?
_____
_____

**APPENDIX C: TEACHERS' QUESTIONNAIRE: UNDERSTANDING EFFECTIVE PRACTICES DRIVEN BY COMPETENT/EFFICIENT CURRICULUM PRACTITIONERS**

	<b>Strongly agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. A teacher should command Geography curriculum expectations to realise with learners in the teaching-learning situation.				
2. A teacher should command ability to select suitable textbooks (Geography) for learners to affect meaningful learning in learners.				
3. A proficient Geography teacher is able to supplement textbooks written in English to ease second language learners to learn effectively.				
4. An efficient Geography teacher is able to promote individual and co-operative learning in learners to maximise learning.				
5. A Geography curriculum teacher should create opportunities, time, and space to learners to think in Geography.				
6. A Geography curriculum teacher should respect learners' ideas in interaction to develop independent thinking.				
7. A Geography curriculum teacher should develop thinkers, knowledge and new ideas constructors through verbal reasoning.				
8. A Geography curriculum teacher should provide guidance to learners to affect discovery ability in learning in Geography.				
9. A Geography curriculum teacher should provide to learners identifying, collecting-interpreting-and analysing skills to actively handle facts as geographers.				
10. A Geography curriculum teacher should view/recognise learners as unique individual's to be accorded respective opportunities to learn at own pace using specific methods and strategies.				

**THE END**

**THANK YOU FOR YOUR TIME AND CO-OPERATION**

**APPENDIX D: TEACHERS' QUESTIONNAIRE: UNDERSTANDING THE CONCEPT BARRIERS**

	<b>Strongly agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. Geography curriculum teachers have challenges in qualifications in English as the subject, English as the medium of teaching and learning.				
2. Geography curriculum teachers are unqualified or underqualified to offer all prescribed sections of the curriculum.				
3. Geography curriculum teachers compromise English by teaching learners in the home language (Sepedi) in class.				
4. Geography curriculum teachers experience problems to supplement difficult textbooks English to simplify learning to second language (English) learners.				
5. Geography curriculum teachers do evil to learners by teaching them in Sepedi in class while they answer in English in examinations.				
6. Geography curriculum teachers have problems with realising the subject expectations in learner development in learning situation.				

**THE END**

**THANK YOU FOR YOUR TIME AND CO-OPERATION**

**APPENDIX E: LEARNERS' QUESTIONNAIRE: PROBING LEARNERS' EXPERIENCES AND CHALLENGES IN THE LEARNING OF GEOGRAPHY IN THE LEARNING SITUATION**

	<b>Strongly agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. The language (English) of the textbooks we use is difficult for us without the help of the teacher.				
2. Our Geography teacher makes the difficult English easy for us to understand the lessons.				
3. Our Geography teacher uses our home language (Sepedi) always in teaching us in class.				
4. Our Geography teacher does not at all use the home language (Sepedi) in class.				
5. It is difficult to answer question papers in English in examinations while we were taught in the home language (Sepedi) in class.				
6. The Geography teacher who teaches us in English helps us to answer easily in English in examinations.				
7. It will be good to be taught Geography in the home language (Sepedi) to make learning easy.				
8. The Geography teacher divides us into groups to do tasks.				
9. The Geography teacher regularly takes us out to do tasks.				
10. The Geography teacher regularly takes us out to do projects in the field.				
11. The Geography teacher is good at teaching map work.				
12. The Geography teacher spends most of the time talking in class without letting us talk.				
13. The Geography teacher encourages learners to debate facts in English.				
14. The Geography teacher gives individual learners chance to give reports about project verbally/orally.				

**THE END**

**THANK YOU FOR YOUR TIME AND CO-OPERATION**

**APPENDIX F: SEMI-STRUCTURED INTERVIEW SCHEDULE FOR GEOGRAPHY (SUBJECT) EXAMINERS IN THE LIMPOPO PROVINCE**

<p>1. Why do grade 12 Learners in the Limpopo Province perform poorly in Geography?</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>2. Could you single out/pinpoint particular sections in the grade 12 assessment of Geography that pose challenges to teachers subsequently impacting/negatively on learners` performance in examinations?.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>3. What is your take regarding the prescribed textbooks on Grade 12 Geography in relation to second language (English) learners` linguistic level in the Limpopo province.</p> <p>.....</p> <p>.....</p> <p>.....</p>

**APPENDIX G: LEARNERS' QUESTIONNAIRE: PROBING LEARNERS' EXPERIENCES AND CHALLENGES IN THE LEARNING OF GEOGRAPHY IN THE LEARNING SITUATION**

	<b>Strongly agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly disagree</b>
15. The language (English) of the textbooks we use is difficult for us without the help of the teacher.					
16. Our Geography teacher makes the difficult English easy for us to understand the lessons.					
17. Our Geography teacher uses our home language (Sepedi) always in teaching us in class.					
18. Our Geography teacher does not at all use the home language (Sepedi) in class.					
19. It is difficult to answer question papers in English in examinations while we were taught in the home language (Sepedi) in class.					
20. The Geography teacher who teaches us in English helps us to answer easily in English in examinations.					
21. It will be good to be taught Geography in the home language (Sepedi) to make learning easy.					
22. The Geography teacher divides us into groups to do tasks.					
23. The Geography teacher regularly takes us out to do tasks.					
24. The Geography teacher regularly takes us out to do projects in the field.					
25. The Geography teacher is good at teaching map work.					
26. The Geography teacher spends most of the time talking in class without letting us talk.					
27. The Geography teacher encourages learners to debate facts in English.					

28. The Geography teacher gives individual learners chance to give reports about project verbally/orally.					
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**THE END**

**THANK YOU FOR YOUR TIME AND CO-OPERATION**

**APPENDIX H: SEMI-STRUCTURED INTERVIEW SCHEDULE FOR GEOGRAPHY  
(SUBJECT) EXAMINERS IN THE LIMPOPO PROVINCE**

<p>4. Why do grade 12 Learners in the Limpopo Province perform poorly in Geography?</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>5. Could you single out/pinpoint particular sections in the grade 12 assessment of Geography that pose challenges to teachers subsequently impacting/negatively on learners` performance in examinations?.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>6. What is your take regarding the prescribed textbooks on Grade 12 Geography in relation to second language (English) learners` linguistic level in the Limpopo province.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>