

Secondary school Geography teachers'
understanding and implementation of learner-
centred education and enquiry-based teaching in
Namibia

By

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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am authorship owner thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

This study investigates the understanding of and experiences in the implementation of learner-centred education (LCE) and enquiry-based teaching of Grade 10 Geography teachers against the backdrop of curriculum reform in Namibia. The Namibian curriculum is premised on the view that there is a need for the holistic development and preparation of learners for a knowledge-based society. Globally, LCE, with its potential for broadening access to quality education, has been a recurring theme of national reform policies and has been promoted as an innovative way of teaching. The usefulness of the LCE approach and associated enquiry-based teaching is embedded in constructivism and is introduced with the promise that it will enable learners to develop investigative and critical thinking skills that will put them at the centre of learning.

This interpretative study employed a case study approach that utilised qualitative methods to gather information on the experiences of the three Geography teachers at the sampled schools as they implement LCE and enquiry-based teaching. The main data-gathering techniques in phases 1 and 2 of the research respectively were semi-structured interviews and classroom observations. The findings revealed that the teachers have different understandings of what LCE and enquiry-based teaching approaches are, although their teaching employs some elements of it. The research also indicated that there is one big factor that impinges on their implementation of LCE and enquiry-based teaching approaches. The teachers admitted that, due to the pressure of learner success in the end-of-year Grade 10 examination, they rather teach to the test. This diverts their teaching from focusing on implementing approaches that actively involve learners in the learning process and nurture enquiry skills when these skills are not formally assessed in examinations.

Consequently, teachers fail to implement the syllabus as intended by policy makers and curriculum developers. Even though the findings of this study may be specific to the sampled schools and the participating teachers, it can be assumed that similar situations exist in schools with comparable contexts. It is therefore important that education policy makers and relevant stakeholders strive to allocate sufficient support and resources for teachers to implement LCE and enquiry-based teaching effectively in schools.

OPSOMMING

Hierdie studie ondersoek die verstaan van en ervarings met die implementering van leerder-gesentreerde en ondersoek-gebaseerde onderrig van Graad 10 Geografie-onderwysers teen die agtergrond van kurrikulumhervorming in Namibië. Die Namibiese leerplan berus op die siening dat daar 'n behoefte is aan die holistiese ontwikkeling en voorbereiding van leerders vir 'n kennis-gebaseerde samelewing. Leerder-gesentreerde onderrig met sy potensiaal om toegang tot gehalte onderwys te verbreed, is 'n tema wat wêreldwyd herhaaldelik in nasionale hervormingsbeleid voorkom en as 'n innoverende wyse van onderrig bevorder word. Die nut van die leerder-gesentreerde benadering en gepaardgaande ondersoek-gebaseerde onderrig is in konstruktivisme gebaseer en word voorgestel met die belofte dat dit leerders in staat sal stel om ondersoekende en kritiese denkvaardighede te ontwikkel, wat hulle sentraal in die leerproses sal plaas.

Hierdie interpretatiewe studie het 'n gevallestudie-benadering gevolg en kwalitatiewe metodes gebruik om inligting in te samel oor die ervarings van drie Geografie-onderwysers se implementering van leerder-gesentreerde en ondersoek-gebaseerde onderrig by skole wat as steekproef gekies is. Die belangrikste onderskeidelike data-insamelingstegnieke in fases 1 en 2 van die navorsing was semi-gestruktureerde onderhoude en klaskamerwaarneming. Die bevindinge toon dat die onderwysers verskillende begrippe handhaaf van wat leerder-gesentreerde en ondersoek-gebaseerde onderrigbenaderings behels, hoewel hulle onderrig sommige elemente daarvan toon. Die navorsing het ook aangedui dat een belangrike faktor inbreuk doen op hul implementering van leerder-gesentreerde en ondersoek-gebaseerde onderrigbenaderings. Die onderwysers het erken dat die druk van leerdersukses in die graad 10-eksamen aan die einde van die jaar hulle eerder met die oog op die toets laat onderrig gee. Dit verplaas die fokus van hul onderrig weg van die implementering van benaderings wat leerders aktief by die leerproses betrek en die koestering van ondersoekvaardighede, veral ook omdat hierdie vaardighede nie formeel in eksamens beoordeel word nie.

Onderwysers slaag gevolglik nie daarin om die leerplan soos beleidmakers en kurrikulum-ontwikkelaars dit bedoel, te implementeer nie. Selfs al sou die bevindinge van hierdie studie slegs spesifiek op die betrokke skole en die deelnemende onderwysers betrekking hê, kan aanvaar word dat soortgelyke situasies in skole in vergelykbare kontekste bestaan. Dit is dus belangrik dat onderwysbeleidmakers en relevante rolspelers daarna moet streef om voldoende

ondersteuning en hulpbronne vir onderwysers beskikbaar te stel om leerder-gesentreerde en ondersoek-gebaseerde onderrig effektief in skole te implementeer.

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LIST OF ABBREVIATIONS

ADEA	Association for the Development of Education in Africa
CAPS	Curriculum and Assessment Policy Statement
EBL	Enquiry-based Learning
LCE	Learner-centred Education
MBEC	Ministry of Basic Education and Culture
MEC	Ministry of Education and Culture
MoE	Ministry of Education
NIED	National institute for Educational Development
SSA	Sub-Saharan Africa
UN	United Nations
UNICEF	United Nations Children's fund
UNESCO	United Nations Educational Scientific and Cultural Organisation
ZPD	Zone of Proximal Development

CHAPTER 1: ORIENTATION OF THE STUDY

1.1 Introduction

The development of the global or ‘new’ economy has been impacting significantly on education since the 1990s. This new economy requires a type of learner who has acquired skills and values that enable him/her to be creative, versatile, and innovative, a critical thinker or a problem solver, both at school and in real-life situations. The demand for learners with these attributes has been contributing to the initiation and adaptation of educational reforms in various countries across the globe.

One of these reforms has been the shift from the traditional teacher-centred approach to learner-centred education (LCE). This shift and its implications for teaching and learning have been spreading from the developed to the developing world. In different countries different teaching strategies are representative of initiatives to implement learner-centred approaches – one of them is the use of an enquiry approach in the teaching of subjects, especially in Social Sciences like Geography and History. Over the past two decades, many countries in the Southern Africa Development Community (SADC) have been through similar educational reforms. Countries like South Africa, Tanzania, Malawi and Botswana are examples of this trend.

The pedagogical paradigm shift from teacher-centred to more learner-centred approaches is also evident across sub-Saharan Africa (SSA). According to Vavrus, Thomas and Bartlett, (2011:61) there are similarities in policy formation and implementation across Africa, even though each nation has a distinctive educational system and its own culture, economic, and political contexts that affect LCE. They argue that it may, in this case, be unfortunate for one nation to fail to benefit from the experience of another nation’s attempts to put into practice LCE in its primary and secondary schools. Supporting the shift to LCE, Gert Biesta (2015: 79-80) argues that: “Sometimes education does indeed need to be flexible, personalised, and tailored to individual learners, but sometimes it is important for education to be strict, structured, and general”, if learners are to get things ‘right’ or act in prescribed ways — ways seen as vital by teachers’ pragmatic judgements.

This study, however, focuses on teaching and learning in Namibia where a similar policy-driven educational reform is experienced. This chapter presents a brief background to

Namibia's education system which serves as the context in which the emphasis is on the use of learner-centred and enquiry-based approaches in teaching and learning. It then describes the problem statement and, together with it, the factors that motivated this study investigating the use of these approaches in Geography teaching. A broad overview is also provided of the research methodology used in the study. Before this chapter concludes with an outline of the chapters of the thesis, the research questions are introduced.

1.2 Background to the study

Effective learning is more than simply gathering and memorising information. Learners must be skilled at using information, not only in schools or other education programmes, but throughout their lives, often in ways that are not anticipated during their schooling. Learning should equip learners with skills for determining what information they need to address a particular problem and how to gather that information. This type of learning involves high expectations of and from teachers. Effective learning requires teachers who are not only pedagogically competent in their subjects, but who can also respond creatively to new situations in which they become agents and facilitators of change (Ministry of Education and Culture [MEC], 1993:76).

However, Biesta (2015:77-83) maintains that although effective learning is essential in putting the learner and sometimes the teacher at the centre of education and even the curriculum when it matters to get things "right", effective education should be part of good education, which he sees as one which always engages with key questions of content, purpose and relationships where the voices of the learners and the teachers come with different responsibilities and expectations. Consequently, teachers "need to make a [pragmatic] judgement about the appropriateness of how they teach and organise their educational efforts" (Biesta, 2015:75-84). Teachers also need to regain and reclaim their professionalism so as to avoid treating learners as "customers", among other practices that have been distorting the educative potential of teaching and learning.

When the postcolonial Namibian government came into power in 1990, it was challenged by the legacies of the colonial educational dispensation. One of these challenges was that education in Namibia was based mainly on a traditional teacher-centred approach in which the "teacher's task is to 'transmit' the authoritative knowledge to learners through lecture and

notes on the board, while learners listen and ‘receive’ it with little critical reflection on how it came to be” (Vavrus *et al.*, 2011:25).

In this approach the teacher is situated at the centre of the teaching and learning processes while the assessment of learners is seen as a separate process aimed mainly at determining how well the teacher conveyed the set of facts about the world, as pre-determined by the teacher, to the learner. Due to its high focus on transmission of content selections by teachers, little attention is paid to the needs of learners, the cultural capital they bring with them and their interests. In an attempt to address this situation, the new Namibian government committed itself to adopt an LCE approach, with the emphasis on learning with understanding (Zeichner & Ndimande, 2008:336) and teaching strategies that support it.

This was one of the major shifts that characterised the education reform process and shaped related education policy in Namibia. In this regard a policy document, ‘Toward Education for All’, was set to capture and drive the philosophy of Namibia’s post-independence education. A central aim of this policy was to promote and require teaching practices that would support learners in acquiring knowledge through understanding, rather than through the use of recall and reproduction of memorised facts (Ministry of Education and Culture, 1993:120). According to Zeichner and Ndimande (2008:334) the policy also suggests valuing learners’ life experiences and current understandings as starting points for instruction in schools. They stated further that LCE promotes a higher degree of learner participation through discussions and contributions in classrooms. Another core aim is that learners, through participation in teaching and learning processes, should develop the abilities needed to apply newly acquired knowledge and skills in real-life situations.

In the context of the shift to LCE, learning and teaching processes in Namibian schools were to be characterised by activities that enabled the learners to draw on their previous knowledge while analysing, synthesising, reconstructing and using new knowledge (Ministry of Education [MoE], 2009:9). These learner-centred practices are closely aligned with constructivist teaching and learning approaches (Weimer, 2013:24; Pillay, 2002:93). In support of this, Thompson (2013:51) argues that learners “learn and acquire knowledge through active engagement, enquiry, problem solving, and collaboration with others”. This re-positioning of the learner as the object of education suggested a need for a constructivist philosophy to guide teaching and learning in Namibian schools.

Prior to this, learners were regarded as *tabula rasa* or ‘empty buckets’ that responded to positive or negative external stimuli from the teacher (Ministry of Education and Culture, 1993:120-121). However, constructivism in its various forms, for instance social constructivism, offers a framework for learners to learn how to access their existing knowledge and understanding so as to go beyond their present thinking by interpreting new information through existing knowledge structures (Lambert & Balderstone, 2010:148; Yilmaz, 2008:37). Consequently, the critical role of the social constructivism approach is to facilitate interaction in which learners reshape, enlarge, and deepen their existing understandings with the guidance of teachers (Weimer, 2013:24; Applefield, Huber & Moallem, 2001:60-61).

This teaching and learning that is guided by constructivist ideas is in line with “Namibia’s vision 2030”. The latter was introduced by the government as a perception of the future to improve the quality of life of the Namibian people to the level of their counterparts in the developed world by 2030 (Republic of Namibia, 2004:7). Vision 2030 stipulates that education and training should provide for the delivery of a flexible curriculum that employs new teaching methodologies (*ibid.*, 2004:30). According to this vision, the use of these methodologies serves at least two purposes. Firstly, they enable the education system to produce learners who have flexible and enquiring minds and are able to use critical thinking skills in different contexts. Secondly, the new methodologies enable learners to adapt to new situations and demands by continuously learning from their own initiatives. One of the methodologies that form part of the LCE approach is enquiry-based learning (EBL). Catling and Willy (2010:65) suggest that learner-centred teaching and learning, particularly enquiry-based approaches provide a context in which learners can develop enquiry skills for independent and self-regulated learning.

1.3 Problem Statement

An analysis of research on the implementation of education reform focusing on LCE in Namibia reveals challenges in the implementation processes (Zeichner & Ndimande, 2008; Kasanda *et al.*, 2005; O’Sullivan, 2004). These studies reported a number of findings regarding the absence of effective implementation of LCE. A research study conducted by the Association for the Development of Education in Africa (ADEA) in Namibia, shows that only 23% of the sampled population of teachers exhibited the desired teaching approaches in their teaching practice (Pomuti *et al.*, 2005:16). One of the key findings in the ADEA study

was that “teachers are aware of the necessity to incorporate learner-centred principles in their teaching, but they lack the skills to do it” (Pomuti *et al.*, 2005:16).

In some schools in Namibia this lack of implementation arises from the high cost of teacher training, unmanageable large class sizes and the unavailability of measures for tight monitoring of the shift from traditional teacher-centred to learner-centred methods (Zeichner, & Ndimande, 2008:334; O’Sullivan, 2004: 593-594; Swarts, 2003:27-28).

Taking into account my own lived experiences as a Social Studies teacher of many years in Namibia, LCE which promotes active learner involvement is often ignored and not emphasised in teaching. Teachers still teach in a traditional teacher-centred way. In support of this, Kasanda *et al.* (2005:1818) indicate that the implementation of LCE in Namibian schools is affected by a lack of understanding of the learning theories underpinning LCE. This suggests that there is a gap between the learner-centred ideas (theory) expressed in the Namibian national curriculum and actual practice in teaching.

At subject level, LCE in Geography should support processes that enable learners to develop into responsible, critical, reflective and active citizens (Yilmaz, 2008:36). Such learners might be capable of making informed and reasoned decisions regarding social and environmental challenges facing local, national and global communities. In working towards these learning objectives, Geography, like other subjects, needs to be taught using more learner-centred approaches as learners develop subject-related knowledge, skills and values (Roberts, 2003:10; Davidson, 2002:78). Since learner-centred teaching with enquiry learning encourages learners to actively construct meaning and understanding at each stage of the learning process, it can function as an irreplaceable tool for attaining important goals of Geography education (Lambert & Balderstone, 2010:187-188; Yilmaz, 2008:36).

Apart from other strategies that form part of LCE, enquiry-based learning and teaching is one of the approaches that are included under the umbrella of LCE. In support, Weimer (2013:22-23; UNESCO (2010:1), maintain that there are links between EBL and LCE by arguing that EBL is one of the learner-centred approaches that emphasises higher order thinking skills and supports learners to think geographically. In this regard, the active involvement of learners in EBL makes it a learner-centred approach – more learning takes place through the learner being involved in the process of knowledge construction than learning by way of mere transmission of knowledge through teaching.

The enquiry-based approach has been found useful in teaching and learning in Geography (Roberts, 2003:10). Roberts (2010:8) argues that an enquiring approach offers opportunities for learners to make sense of data for themselves in at least two ways. First, learners require time and space to relate new information and ideas to their pre-existing knowledge; the learners need time to think, rather than being pressurised along by a need for pacing up the material being learned. Second, they need to be familiarised with key geographical concepts such as place, space, distribution, location, human-environment interactions, sustainability, interdependence, and globalisation to enable them to understand new ideas in Geography.

Simasiku (2012) is of the opinion that Geography teachers in Namibian secondary schools lack the skills and knowledge required in using enquiry-based teaching methods (e.g. fieldwork) as a key component of their teaching. Fieldwork activities, for example engaging in site visits, interviewing community members and implementing projects involve learners actively in enquiry learning. The Namibian Geography syllabus does not specify guidelines on how teachers should implement the enquiry-based methods in their teaching (Ministry of Education, 2010). However, the Geography syllabus suggests opportunities for the use of enquiry-based methods and contains assessment objectives which have some of the components of EBL, such as knowledge with understanding, judgment and decision making, and application of geographical skills (Ministry of Education, 2010:50-51).

In comparison with the Namibian Geography syllabus, EBL methods are more clearly outlined in the Curriculum and Assessment Policy Statement [CAPS] for Geography in South Africa. The curriculum offers opportunities for integration of enquiry-based teaching by delineating a suggested sequence of key geographical questions applied in Geography teaching (Department of Basic Education, 2011:10). Examples of these key questions that can be used to systematically investigate geographical phenomena/processes are illustrated in Table 1.1 which provides ideas with regard to the method of enquiry and what geographical concepts may be addressed; Fieldwork as another enquiry-based strategy is included as part of the geographical skills and techniques component of the curriculum (*ibid.*, 2011:13).

Table 1.1: Enquiry questions from the CAPS for Geography in the FET band

Method of enquiry	Key questions	Concepts
Observation	<ul style="list-style-type: none"> • What is it? • What is it like? • Who or what is affected? 	Physical and human processes, awareness, perception, characteristics, similarities and differences
Description	<ul style="list-style-type: none"> • Where does it occur? • Why is it there? 	Location, place, region, space, distribution, pattern, scale and spatial association
Analysis and explanation	<ul style="list-style-type: none"> • What happened or is happening? • Why did it happen? • How is it changing? 	Interdependence, causes and processes
Evaluation and prediction	<ul style="list-style-type: none"> • What are the effects? • What is likely to happen? 	Environmental impact, social impact, interdependence; spatial interaction, spatial organisation, human-environment interaction, cause, process, time, behaviour, consequence, justice, quality of life, environmental quality, welfare, costs and benefits
Decision-making	<ul style="list-style-type: none"> • Who benefits? • What decisions must be made? • What are the costs and benefits of decisions? • How should it be managed? 	Choices, decisions, costs and benefits, planning, management, power, inequality and problem-solving
Personal evaluation, judgement and response	<ul style="list-style-type: none"> • What is my position? • What action can I take? 	Cultural sensitivity, diversity, ethics, opinion forming, empathy, values, action and personal responsibility

Source: Department of Basic Education, 2011:10

While high priority is placed on the implementation of a learner-centred teaching approach, one strategy of which is enquiry-based teaching, a review of existing research, as detailed in Chapter 2, shows that little empirical research on its implementation and use in Geography education is done in Namibia. Zeichner and Ndimande (2008:337-8) as well as O’Sullivan (2004:598) agree that, the Namibian context offers opportunities for investigating the implementation of some modified forms of the learner-centred approach. It is suggested that an investigation into these forms of learner-centred teaching might provide an opportunity for responding to concerns raised by some researchers on the “extent to which pure learner-centred approaches can effectively enable learners to develop basic skills” (O’Sullivan, 2004:598).

It is against this background that the current study investigates how teachers are implementing the LCE curriculum in Geography. Through its aim to analyse ways in which the participating teachers understand and experience the use of learner-centred approaches and the elements of enquiry-based teaching and learning, the study will help to illuminate the tensions or interactions between policy and practice, which are important in ensuring quality teaching.

1.4 Research question and sub-questions

The research question that drove the research was: How do the Geography teachers experience the implementation of learner-centred teaching, specifically in using the enquiry approach in their classrooms?

In answering this question the following two sub-questions were used respectively in Phase 1 and 2 of the research:

- How do Geography teachers in Namibia understand the use of learner-centred education and its approaches?
- How do Geography teachers in Namibia implement learner-centred education, specifically the elements of enquiry-based teaching?

1.5 Methodological framework

This study employed an interpretive paradigm because the researcher wanted to understand why teachers are doing what they are doing. Maree (2011:60) asserts that an interpretivist research paradigm in qualitative research enables one to “offer a perspective of a situation and to analyse the situation under study to provide insights into the way in which a particular group of people makes sense of their situation or the phenomena they encounter”. Consequently, a qualitative research design was employed for this study in order to gain a deeper understanding of the learner-centred teaching strategies employed by teachers in teaching Geography.

The study used the multiple case study methodology as elucidated by Leedy and Ormrod (2013:141) to investigate the experiences of the teachers as they implemented learner-centred approaches and strategies of EBL in Geography teaching. The data collection process was carried out over two months at three purposively sampled schools. At each school the principal nominated a Geography teacher who agreed to participate in this study and was

interviewed in Phase 1 of the research. In Phase 2, the researcher observed how the same teachers conducted their teaching and also examined their planning and assessment documentation. The processes of interviewing the teachers and observing their classes were conducted in line with the requirements of research ethics in general. In particular, an informed consent form, one of the key requirements of the Research Ethics Committee at Stellenbosch University, was administered to each of the research participants.

Grade 10 Geography teachers and classes were selected for the data collection processes. The decision to focus on Grade 10 was based on the fact that the teaching had to be according to the stated curriculum, as the examination results gained at the end of this grade are instrumental in determining whether learners proceed with their education when they pass or exit the education system when they fail (Ministry of Education, 2011:20).

Document review was done to facilitate analysis and interpretation of the data from the interviews and class observations. This involved examining documents such as The National Curriculum for Basic Education; the Geography Syllabus for Grades 8-10; teachers' lesson planning and schemes of work; and learners' written work. The analyses and discussion of the teachers' experiences are supported by themes developed through thematic analysis involving the research questions of this study and from the secondary literature consulted. Chapter 3 contains a detailed discussion of the research methodology.

1.6 Overview of the chapters of the thesis

This thesis is presented in six chapters. Each chapter deals with different aspects of the study. In Chapter 1, Orientation of the study, the background, the research problem, the purpose of the study and research questions are described. Chapter 2, Literature Review, presents analyses of important theories related to teaching and learning. Following this, contemporary works of researchers who focused their research on learner-centred and enquiry-based learning are explored and literature on Geography teaching specifically and learning in general and in Namibian schools is reviewed.

Chapter 3, Research Methodology, comprises a discussion and justification of the qualitative research design that underpins this research study, to be followed by a description and justification of the case study design and methods of data collection that were used in the study, detailing the process of sampling, data analyses and interpretation. Finally, the

significance of reliability, validity, triangulation and ethical consideration processes employed in this study are explained.

In Chapter 4, Presentation of Findings, the results of the data collected from the three schools are presented in two sections. The first section presents the results of the semi-structured interviews with the three teachers from the sampled schools. The second section presents the findings from data written on observation sheets and audio-recorded during the classroom observation sessions.

In Chapter 5, Analysis and Discussion of Findings, the findings expressed in Chapter 4 are discussed in relation to the literature presented in Chapter 2, in order to answer the research questions.

Chapter 6, Conclusion and Recommendations, highlights the key findings presented and discussed in Chapters 4 and 5 respectively. Significant recommendations are made in this chapter in the hope that they will contribute to improving the teaching and learning of Geography in Namibia. The limitations encountered in the research process of this study are also revealed and the chapter concludes with suggestions for future research of this kind.

1.7 Summary

The foregoing sections of the orientation chapter provide the background of the study, its rationale, the research question and its sub-components, and conclude with an outline of the chapters. As indicated in the section on the outlining of chapters, the next chapter provides a review of relevant literature on learner-centred and enquiry-based teaching.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The increasingly globalised and hence complex world requires a lot from learners; as such it is becoming imperative for learners to acquire skills relevant for the 21st century. Fessler (2011:2) observes that, for 21st century education to be successful, learners need to be conversant with skills for learning independently. The teaching and learning should be designed to enable the learners to develop strong critical thinking, project-based, interdisciplinary, problem-solving, creativity and innovation, and interpersonal communication skills. The understanding is that learners will apply these skills and knowledge in dealing with real-world problems, responding to local and global challenges, and formulating questions for investigating assumptions that are often taken for granted (Fessler, 2011:11).

However, Biesta (2015:77) contends that the acquisition of skills and knowledge is not enough and that learners need to achieve “something special about [good] education” relating to what he calls the three domains of qualification, socialisation and subjectification. In this regard, the questions “Effective [education] for what?” and “Effective [education] for whom?” are seriously engaged in multidimensional ways (Biesta, 2009:35-41). It is added that through education, learners should acquire qualifications for “doing” specific tasks; learners should be initiated into cultural, professional, political and religious “traditions and ways of doing and being”. In addition, learners need to be equipped with ways of dealing with the reproduction of existing social structures, divisions, and inequalities — learners having the potential to “exist as subjects [citizens] of initiative and responsibility rather than as objects of actions of others” and learners taking a stand to be who they are (Biesta, 2015:77-78; Lavery, 2009:569-72).

In most countries, a move to more LCE approaches is an indication of reform strategies that are aimed at preparing learners for the challenges mentioned above. This chapter therefore presents a review of literature on learner-centred and, more specifically, enquiry-based teaching and learning methods. I start by first providing international perspectives on quality education as a context in which LCE caters for the cognitive demands of learners. Secondly, the chapter presents an overview of enquiry-based learning and teaching in general and in Geography specifically. Thirdly, the focus turns to constructivist theory – tracing its

contribution to EBL in Geography before examining the contestations that relate to its implementation. Lastly, the ways in which LCE and elements of EBL are inculcated in the Namibian educational policy context are reviewed.

2.2 Quality Education and Learner-centred Education: International Perspectives

Quality education that addresses the cognitive needs of learners has been seen as a process that will enable them to attain economic, social and cultural objectives. This happens because such an education helps learners “develop creatively and emotionally and acquire the skills, knowledge, values and attitudes necessary for responsible, active and productive citizenship” (UNESCO, 2004:28). In her analyses of one of Biesta’s works, Lavery (2009:569) calls such education a “plea for a pedagogy of interruption” in which the question of “the relationship of the individual to society and the role of education in the formation, renewal, and re-formation of this relationship” are seriously considered. Lavery (2009:569-70) expounds on this pedagogy by suggesting that teachers should create occasions for significant learning or education to take place by transforming schools and classrooms into “intersubjective ‘spaces’ characterised by pluralism and difference” as also implied by Biesta (2015:83) as in 2.1 above.

2.2.1 Quality education

The UNESCO Global Monitoring Report for 2005 reaffirmed the position of the 1990 World Declaration “Education for All”, which made access to universal and relevant education a prerequisite for combating global trends in poor quality education. Poor quality education was understood as being a result of a lack of fairness in allowing learners to access education that would contribute to their own development and that of society at large. Although the notion of quality was noted as having a number of dimensions, the Report observed that, to improve the quality of available education, emphasis should be placed on the cognitive development of learners (UNESCO, 2004:29).

Alexander (2008:6) asserts that quality education is defined in terms of outcomes rather than process. It is further noted that if quality in education means anything, it means satisfying basic learning needs and enriching learners’ lives. It is observed that these aspects of quality education are crucial in ensuring that learners, on the one hand, see the value of staying in school longer and attending classes on a regular basis. On the other hand, the presence of

these aspects in the education of the learners serves to assure parents that sending their children to school is worth the time and the cost.

The process towards attaining participation in education is in this regard premised on education that largely puts the needs of the learner at the centre. In support of LCE, UNESCO and other specialised agencies and bodies of the United Nations [UN] advocate for the implementation of what are viewed as concrete learning approaches and outcomes. These teaching approaches and intended learning outcomes take into account the four pillars of learning for the 21st century, namely: learning to know, learning to do, learning to be and learning to live (UNESCO, 2009:7) as implied in the aspects of quality education that serve the cognitive needs of the learners.

Corroborating these UNESCO educational practices for the 21st century, Mncube and Harber (2010:615) clarify that quality also refers to a combination of practices that occur inside the classroom and out-of-classroom vision of the type of person and society being created by the education system. While in-classroom and out-of-classroom practices are important in quality education, the context which facilitates their occurrence is also influenced by national education policies such as goals and standards, curricula and teacher policies. These contextual factors deal with issues of access to education, quality of teaching inputs and learning processes, as well as outcomes (Mncube & Harber, 2010:615; Alexander, 2008:9; UNESCO, 2004:7).

It is at the level of access to quality education that national policies may sanction the adoption and implementation of approaches that contribute to realising universal participation in education. As Pinar (in Press) argues, processes of this nature are taking place as a result of the internationalisation and recontextualisation of concepts imported from other countries. He elaborates that globalisation localises these concepts through recontextualisation, so that they adapt to “distinctive domestic circumstances”. In the 21st century, LCE depicts a lot of potential for motivating learners and their parents to see the education process as worthwhile, which I attempt to elaborate on in the next section.

2.2.2 Background of learner-centred education

Learner-centred education, with its potential for broadening access to quality education, has been a theme that has appeared constantly across a number of countries in which it has been the national reform policy, on the one hand and, on the other hand, an innovative way of

teaching (Schweisfurth, 2013b:172). According to Biesta (2009:46) even the ‘new language of learning,’ contends that: “Placing learners and learning at the centre of education and training methods and processes is by no means a new idea, but in practice, the established framing of pedagogic practices in most formal contexts has privileged teaching rather than learning.” The usefulness of the approach might also be attributed to its roots, which can be traced back as far as the works of John Dewey (1916). Dewey is viewed as one of the influential thinkers and writers on the subject of LCE in the 20th century. He linked progressive pedagogy to the development of democratic skills and dispositions in learners. Learners were viewed as capable of benefiting from learning situations where they are actively involved and drawing from their existing knowledge and skills learned in schools to solve real world problems (Schweisfurth, 2013b:172; Vavrus & Bartlett, 2012:639; Du Plessis & Muzaffar, 2010:12).

According to Weimer (2013:17-18), Paulo Freire also contributed to the development of LCE through his ideas on how adult education needs to be conducted. He put forward his notion of conscientisation which, in pedagogical circles, implied the importance of questioning the status quo as part of the learning process. This idea was understood as an antidote to the then existing ‘banking’ model of education in which the teacher ‘deposited’ knowledge into the learner (Altinyelken, 2011:138).

Freire’s new way of seeing teaching and learning as empowering learners was supported by the work of educationists Rousseau, Dewey, Vygotsky and Bruner and international organisations involved in education such as UNESCO and the United Nations Children’s Fund [UNICEF] (Altinyelken, 2011:138). To these scholars and institutions, a constructivist paradigm was essential to the teaching and learning processes that Weimer (2013:19) sees as having potential to change the power dynamic in classrooms in favour of learners and learning. Knowledge needs to be a product of co-construction between learners and teachers, with teachers playing a social, interpersonal and facilitative rather than whole class instructive role (Thompson, 2013:49; Weimer, 2013:21; Weimer, 2002:11-12). According to Schweisfurth (2013b:20) a constructivist curriculum that puts the learner at the centre of learning represents one of the critical challenges to global education reforms.

2.2.3 Theoretical underpinning of learner-centred education

A central feature of constructivism is that learning is seen as a process in which learners are active sense-makers seeking to develop coherent and organised knowledge on the basis of

previous learning together with others (Altinyelken, 2011:138). Constructivism includes different strands such as ‘radical constructivism’ and ‘social constructivism’, as emphasised by Du Plessis and Muzaffar (2010:35). Radical constructivism can be defined briefly as an approach in which an individual is the primary actor in the process of meaning making and thus to the learning process. Learners must get themselves personally involved and actively engaged in the learning activities.

In social constructivism, in contrast, knowledge is constructed not only from personal experiences, but also from social interaction with others. This means that knowledge is interwoven with culture and society. Another form of constructivism that differs from the two above is the cognitive constructivism. This expresses the belief that knowledge is the result of the accurate internalization and reconstruction of external reality or what Biesta (2015:76 and 83-84) describes as the point of education in which learners learn *something* that they learn for a *reason* from *someone*. What this implies is that the external reality involved in cognitive constructivism is actual learning. This learning involves being aware of external factors and using cognitive skills to consider these factors and processes internally using previous knowledge to construct new knowledge (Doolittle and Camp, 1999).

Despite considerable differences in defining constructivism in its various forms, it lays emphasis on learners actively constructing their own knowledge. This is opposed to the traditional teacher-centred approach in which learners are passive recipients of information transmitted to them by teachers and textbooks (Warnich & Meyer, 2013:16).

Learner-centred approaches value learning which incorporates core ingredients of constructivism – learners in groups working on open-ended problems; learners evaluating and organising information they discover; and learners creating their own solutions and management strategies for real-world issues and problems. This confirms that there is a connection between constructivism and learner-centred practices. Moreover, constructivism is often cited as a justification for using learner-centred approaches as it fundamentally proposes that learners must interact with the content and environment and not just be passive recipients of information from an authority (Weimer, 2013:21-24). Given that all the strands of constructivism “share the principles namely, a) that there are multiple forms of knowledge, b) prior knowledge plays a role in the construction of new knowledge, c) [and] knowledge is socially constructed” (Du Plessis & Muzaffar, 2010:35), this study was guided by social constructivism as elaborated in section 2.3.5, below.

The literature suggests that LCE is defined and interpreted differently across different contexts (Thompson, 2013:49; Du Plessis & Muzaffar, 2010:31). In line with Schweisfurth's (2013b:20) definition, LCE is an approach that gives learners, and demands from them, a high level of active control over the content and processes of learning. These processes of learning are shaped by the needs, capacities and interests of learners, as also implied by Weimer (2013) in the preceding sections. This is in contrast to a range of other pedagogical approaches that are empowered by a fixed curriculum and rote learning, as it happens in lecturing or drilling approaches. In these traditional teaching methodologies the tendency is that teachers are the masters of the learning process with learners serving as recipients of authoritative information (Warnich & Meyer, 2013:14).

Accompanying the definition of LCE are the justificatory narratives which have been used by theorists, policy makers and international agencies, as discussed below, in promoting LCE (Schweisfurth, 2013:2a). The first one is the cognitive narrative. Here the learner has control over the content and process of learning. It is suggested that this process of control over content helps learners to learn by drawing from existing knowledge, and engaging in neural connections and making meaningful patterns which translate into more effective and life-long learning (Weimer, 2013:20-21). This happens because people naturally and biologically are bound to learn less from fixed curricula, while they learn more effectively if they control their learning and are guided in some ways in the learning process (Schweisfurth, 2013b:174; Weimer, 2013:20).

The second narrative deals with emancipation in the sense of doing away with the traditional teacher-learner power relations. According to Altinyelken (2011:138) and Schweisfurth (2013:2a), the use of this narrative calls attention to Freire and Dewey's contention that education has the power to both weaken and support the freedoms of individuals, and that pedagogy can help learners to develop knowledge, skills, attitudes and behaviour essential for social transformation over time (Weimer, 2013:17-18; Du Plessis & Muzaffar, 2010:50). The emancipation narrative employs critical pedagogy, which allows learners to have control not only over what they learn, but also over the process of learning.

Critical pedagogy also encourages the learners to question critically the knowledge they accumulate and the unfairness perpetuated by existing social structures. In this regard LCE contributes to freeing learners as citizens from oppressive forms of control which may limit their thinking. Within this narrative LCE also enables people to be in a position to free

themselves from continuous subjugation to the selfish interests of those in power (Weimer, 2013:18). In these ways LCE prepares learners for challenges in their present and future lives, as elaborated in the third narrative.

The third narrative promotes LCE through flexible and personal forms of learning as well as higher-level cognitive skills and research skills useful in dealing with the challenges of increasingly globalizing economies, for example. As a result of its relevance to contemporary and anticipated socio-economic challenges, the third narrative, also described as the preparation narrative, views LCE as of considerable policy relevance and as potentially being of use in various contexts. It is argued that the skills developed through enquiry-based, self-regulated learning, such as flexibility, critical independent thought and entrepreneurship, enable learners to become flexible and responsive citizens in supporting the development of and sustaining a knowledge economy (Schweisfurth, 2013a:2; Schweisfurth, 2013b:174-175; Du Plessis & Muzaffar, 2010:12).

2.2.4 Characteristics of learner-centred education

The analyses above of the three narratives from within which LCE is implemented provide insights into the dynamics of teaching and learning as LCE takes root as an education reform policy. Pillay (2002:93) asserts that one of the often cited attributes of LCE is that it considers the needs of learners as central to the design and delivery of instruction. In this regard, LCE provides opportunities for learners to make meaning of new concepts and processes on their own (Du Plessis & Muzaffar, 2010:32). It is noted further that, if the overall aim of teaching is to enhance learning, the role the teacher plays to fulfil this changes considerably (Weimer, 2002: xviii).

The analyses of the three narratives also suggest that, with LCE being implemented, the teacher's role is redefined as that of motivating, facilitating and structuring learners' own discovery and search for knowledge (Altinyelken, 2011:140). Weimer (2002:14) further affirms that "teachers no longer function as exclusive content experts or authoritarian classroom managers and no longer work to improve teaching by developing sophisticated presentation skills". Instead, teachers develop capacities for designing activities for actively engaging learners in their learning because, in a sense, teachers teach less in LCE and are seen much more around the classroom as opposed to being in front of it. Teachers are expected to know their learners well and identify their potentials so that they can provide supportive learning opportunities that are appropriate and challenging for their existing

capacities (Altinyelken, 2011:140). In corroboration, Weimer (2013:64) asserts that learner-centred teaching enhances learning by directly engaging learners in tasks that accelerate deep and lasting learning.

In particular, when learning is learner-centred, attention is focused largely on learning. Special focus is thus drawn to: what the learner is learning; how the learner is learning; the conditions under which the learner is learning; whether the learner is retaining and applying the learning; and how current learning positions the learner for future learning (Weimer, 2002:xvi). These characteristics, as Weimer elaborates, emerge as a result of the manner in which content is *used and not covered* in LCE. The content in this case is used to develop learning skills when learners connect new material with what they already know. These skills are not basic study skills only, they also include the sophisticated skills essential to sustain future learning (Warnich & Meyer, 2013:16; Weimer, 2002: xviii).

The relevance of LCE to the attainment of quality education has to do with the capability to orient learning to the idea of “product quality” (Weimer, 2002: xvii). In this case LCE strives that its outcome becomes a better product and, as such in the teaching of subjects such as Geography that require active learner involvement, LCE advocates for *more, not less learning*. As highlighted below, LCE, when implemented with its associates such as EBL does not mean “kowtowing” to the demands of learners or contributing to lowering of academic standards. Rather, in implementing LCE and associated EBL, aspects in subjects like Geography become part of promoting access to universal quality education, as may be evident in section 2.3 below.

2.2.5 Challenges of learner-centred education

Although these narratives may sound appealing in showing the power of education in preparing learners for social and economic challenges and their contribution to economic growth in the wider society, the use of these narratives in LCE has its own challenges. As for the cognitive narrative, it introduces new demands for the teachers in its efforts to make learning a more individualised pursuit for the learner. This may be the case particularly in the developing world where the realities show that classes can comprise about eighty learners. The use of the emancipatory narrative in LCE also makes demands of the teacher. Because the learning content needs to liberate the learners in some important ways, the teacher is required to let his or her moral purpose guide the teaching. What this means is that the classroom situation should be characterised by “egalitarian ... relationships, respect for the

rights and dignity of learners, and the cultivation of transformational skills through critical thinking about learning and through it” (Schweisfurth, 2013b:175). This is a challenge for teachers who traditionally have had to teach and be accountable according to prescribed policies.

In terms of the preparation narrative, analyses suggest that, although teaching and learning may not be easily accountable for learners’ contribution to economic growth in a particular country, teachers strive to desist from implementing LCE in its thinner and rhetorical forms. Schweisfurth (2013b:175) suggests that teaching and learning in LCE should not just involve

[Learners] sitting in groups without actually collaborating; [learners] being consulted about trivial matters without having any say in substantial matters of the curriculum; apparently individualized learning plans based on a narrow range of options and driven by teacher control and dominated by the more vociferous and able learners.

In addition to the foregoing challenges of LCE rooted in its narratives, Vavrus and Bartlett (2012:641-642) identify three challenges from a study they conducted in SSA on comparative pedagogies and epistemological diversities. Firstly, teachers and teacher educators who are meant to implement educational reforms are often not familiar with the theories, debates and methods related to learner-centred pedagogical reforms. Secondly, the use of enquiry-based pedagogies is in many instances undermined by the teachers’ preoccupation with covering the mandated curricula and administering the high-stakes examination systems in most SSA countries. Thirdly, the implementation of constructivist pedagogical approaches is hindered by the lack of basic books and supplies, overcrowding of classes, lack of textbooks, low salaries, and administrative demands on teachers’ time. Analyses of these challenges suggest that, when they are taken into consideration in the educational reform processes, LCE may be better equipped to be implemented with aspects of the enquiry-based approach.

UNESCO (2010:1) emphasises that enquiry learning is a learner-centred approach that prioritises higher order thinking skills. It may take several forms, including analysis, problem solving, discovery and creative activities, both in the classroom and the community. Most importantly, in enquiry learning, learners are responsible for processing the data they are working with in order to reach their own conclusions, as illustrated in Table 1.1 in Chapter 1.

2.3 Enquiry-based Teaching and Learning

Enquiry-based teaching and learning method is viewed as an approach to teaching that is question-driven and involves active, learner-centred learning. It involves learning activities

both in and outside the classroom in which learners acquire knowledge and skills for the present and ongoing independent learning.

2.3.1 An overview of enquiry-based teaching and learning

Enquiry-based learning is a term that includes a range of educational approaches which focus on active engagement in learning such as project-based learning, problem-based learning and discovery learning (Kahn & O'Rourke, 2005). It is further described as a pedagogy which best enables learners to experience the processes of knowledge creation (Spronken-Smith *et al.*, 2007). EBL also enables learners to be inquisitive about constructing knowledge and “[recognizing] that knowledge is contingent and contentious” (Davidson, 2002:78-79).

The model below shows a cycle (see Figure 2.1) in which learners are involved when researching a topic. They are engaging with the question to be explored; determining what information needs to be found; gathering data; synthesising findings; communicating findings; and then evaluating the success. Additionally, the process is viewed as cyclic since the enquiry leads to new interests and more questions. At the centre of the process is an attitude of self-reflection and evaluation, which are seen as “both a product of the inquiry process and an enabler of success at every stage” (Justice *et al.*, 2002:19).

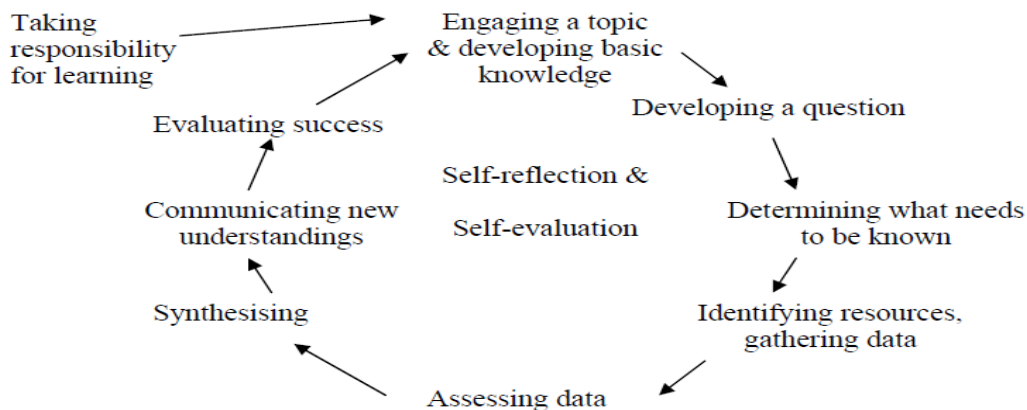


Figure 2.1: Model of enquiry process

Source: Justice *et al.* (2002:19)

In this regard, EBL can go from a rather structured and guided activity, particularly at lower grades of the schooling system, through to independent research where the learners generate the questions and determine how to research them. Kahn and O'Rourke (2005) add that EBL stimulates learners to follow up interesting lines of enquiry and supports them in concentrating their efforts where they need to undertake further work. It is usually organised

around collaborative work in small groups or with structured support from others and contributes to the social interaction and cohesion that can be difficult to achieve in a mass system (Kahn & O'Rourke, 2005). Group learning is considered vital in EBL because it places heavy emphasis on collaborative learning and activity. Thus enquiry learning is continually learner-centred and collaborative.

As elaborated below in the section on constructivist theory, such group learning, together with its scaffolding processes, allows learners to be cognitively engaged in sense making, developing evidence-based explanations, and communicating their ideas. Spronken-Smith *et al.* (2007) note that “facilitated, or scaffold learning is also a requirement for EBL specifically, [because] following the initiation of enquiry, learners are provided with guidance, resources or feedback when and where appropriate”. Additionally, Kirschner, Sweller and Clark (2006:77) agree that the main aim of instruction in EBL is not only to search for or discover information. It is suggested that the goal is to provide learners with specific guidance about how to cognitively use information in ways that are in line with a learning goal, and how to keep the new knowledge in long-term memory.

It is further noted that EBL helps learners to develop valuable research skills for dealing with real local and world issues, as well as for taking action for future learning (Catling & Willy, 2010:65). Catling and Willy (2010:65) elaborate further that, through EBL, learners should achieve learning outcomes that include: critical thinking; the ability for independent enquiry; responsibility for own learning; and intellectual growth and maturity. This approach allows learners to make sense of new information for their use through their active engagement in analysis and interpretation. In these processes, learners have the chance to become aware of their own geographical imaginations that facilitate their understanding of the world.

2.3.2 Teaching and learning in Geography

Hollins (2011:395) suggests that teaching is a complex and multidimensional process that involves deep knowledge and understanding in a broad range of areas. The essence of being an effective teacher lies in knowing what to do to promote learners' learning and being able to actually enhance the learning (Lambert & Balderstone, 2005:42). It is observed that careful planning enables teachers to make advance decisions about what to do with learners in the classroom. In this regard careful planning is viewed as offering the best opportunities for enhancing learning.

However, the research also cautions that careful planning need not prevent teaching and learning from being a flexible process (Davidson, 2002:80). Hollins (2011:395) maintains that planning should involve providing learners with equitable access and opportunities for acquiring, constructing and creating new knowledge from what they already know. These processes are noted as translating knowledge acquisition into quality teaching.

According to Lambert and Balderstone (2005:41), it is important that teachers, when planning, need to take into account the requirements of the curriculum and how learners learn conceptually in Geography. Firstly, teachers should decide about which resources are to be used or prepared for a lesson. Secondly, consideration should be given to how the lesson will build upon previous learning and how it will contribute to future learning in subsequent lessons. In addition to that, Butt (2002:100) states that Geography teachers need to adopt and adapt different teaching strategies to address and promote variations in the learning styles of their learners. This might be the case because teaching and learning in Geography requires unique abilities for perceiving, understanding, storing, and relating information dealing with spatial issues (Butt, 2002:101).

Consequently, it is suggested that learners should not just be doing the classroom activities, but should be intellectually and emotionally stimulated by the activities as much as they are engaged in them. To allow this to happen, learners should be able to generate effective and stimulating questions that are closely linked to the conceptual architecture of the discipline, e.g. place, space, processes and patterns, causes and consequences, interactions, sustainability, to name a few.

The Australian Curriculum *Geography* (ACARA, 2013:8) for example maintains that geography identifies the concepts of place, space, environment, interconnection, sustainability, scale and change as integral to the development of geographical understanding. These are considered as high-level ideas or ways of thinking that can be applied across the subject. The ideas may be used to identify a question; guide an investigation; organise information; suggest an explanation; or help with decision making. They are the key ideas involved in teaching learners to think geographically.

At the centre of preparing the type of learner described in the foregoing paragraph is the ability to ask key geographical questions that will help the learners to enquire systematically about an issue, a process, or a phenomenon. Hence it is suggested that the development of

these skills in Geography at school will enable learners to recall information, show understanding of content, and demonstrate that they can apply new knowledge and skills in solving problems (Umalusi, 2009:37). As will be noted in the following section, enquiry-based teaching and learning in Geography offers an appropriate forum for the development of these skills in learners.

2.3.3 Enquiry-based teaching and learning in Geography

According to Roberts (2003:10), EBL is viewed as an integral part of teaching and learning in Geography. This suggests that all the work in Geography should include some element of geographical enquiry. EBL ought to function as an active ingredient in learners' learning and understanding of the world. In this regard geographical enquiry is seen to play a role in reinforcing and reflecting the perspective that learners are being engaged in intellectually in their own active learning. In so doing, geographical enquiry can contribute to the development of self-motivated and independent learners. The Australian Curriculum *Geography* (ACARA, 2013:13) asserts that, in Geography, learners develop critical and creative thinking abilities as they investigate geographical information, concepts and ideas through EBL.

Teachers therefore need to plan their lessons according to the requirements of geographical enquiry to attain effective teaching and learning. Roberts (2003:10) and Lambert and Balderstone (2010:187) state that, in undertaking geographical enquiry, learners should be taught to:

1. Ask geographical questions beginning with how, why, and what, for example
2. Suggest the appropriate order of investigation by gathering views and factual evidence regarding a local issue and deriving a conclusion from the views and the evidence. Here learners need to also identify bias, opinion and abuse of evidence in sources while conducting investigations.
3. Collect, record and present evidence. Here learners might use statistical information about countries, data about river channel characteristics, for example
4. Analyse and evaluate evidence as well as draw and justify conclusions. For example, learners should analyse statistical data, maps and graphs.
5. Appreciate the connection between learners' own values and those of their society with contemporary social, environmental, economic, and political issues. Here

learners get the opportunity to clarify and develop their own values and attitudes regarding contemporary issues.

6. Communicate in ways appropriate to a given task and audience by producing leaflets, drawing sketch maps and producing persuasive writing about a place they investigated.

In its original form, enquiry learning in Geography implies the use of a logical order of key questions which guide learners along a “route to enquiry” (Department of Basic Education, 2011:10; Butt, 2002:124; Davidson, 2002:78-79). These key questions enable learners to discover on their own answers to a specific problem, or issue within Geography. The route is characterised by enquiry focusing on both facts and values, as well as on investigative questions that deal with issues relating to both cognitive and effective learning. The route for geographical enquiry reflects the hierarchy of stages in intellectual development. This hierarchy, as illustrated in Figure 2.2, below, begins with “low order” processes of observation and progresses through analysis and evaluation to the higher order ability to arrive at rational decisions and judgments (Butt, 2002:124).

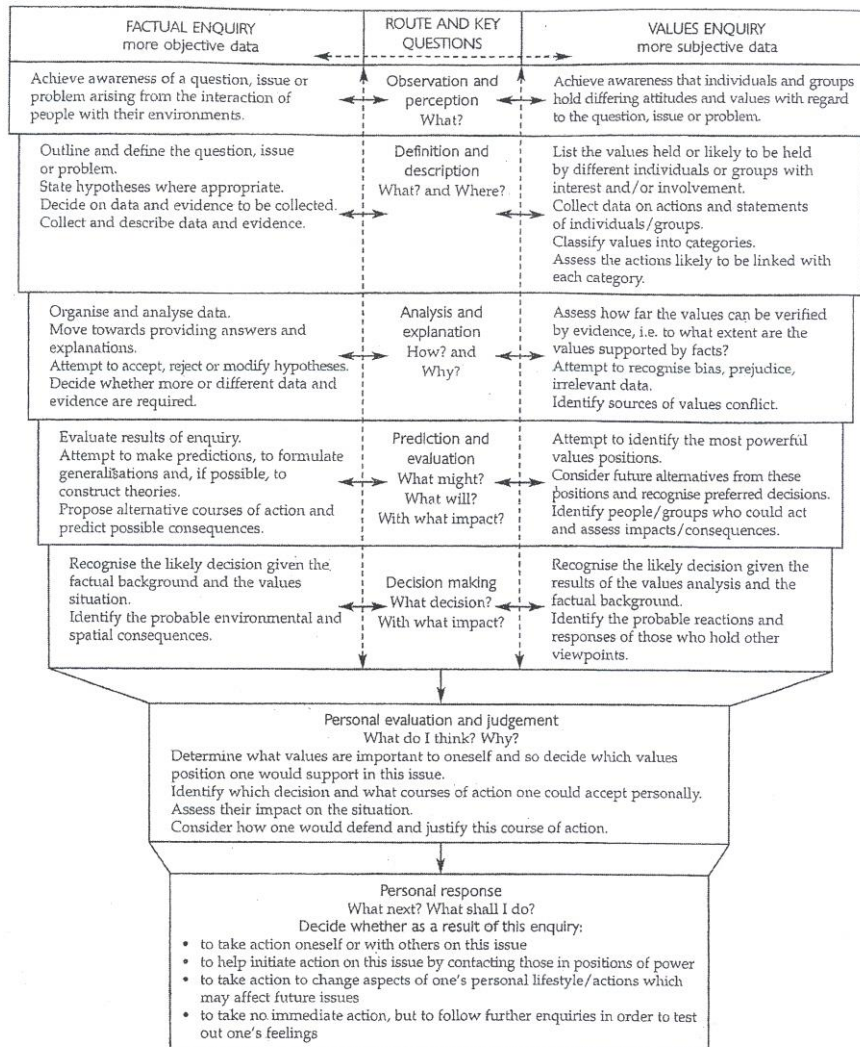


Figure 2.2: The route for geographical enquiry

Source: Lambert and Balderstone (2010:200)

As suggested in the route for geographical enquiry, involving learners in geographical enquiry helps them to acquire learning skills at the same time as learning Geography. The route facilitates the development of enquiry skills such as how to investigate an issue; how to select data; how to be critical of data; to analyse and interpret data for themselves; and to reach their own conclusions (Roberts, 2003:42-43). This shows that geographical enquiry functions as an empowering process in which learners acquire greater awareness of how they learn and how knowledge is constructed and presented to them. Enhanced participation of learners in their own learning and construction of knowledge is thus important in Geography learning.

2.3.4 Geographical enquiry-based learning approach contested

In spite of the foregoing strengths of geographical enquiry, there exists a difference in interpretation among practitioners of Geography education. This is because the term enquiry learning has implications based on its use in everyday life and in other subjects, and for some it is not a value-free term (Roberts, 2010:6). According to Butt (2002:123), research revealed that what Geography teachers understand by the term “enquiry learning” differs in vital ways. This entails that teachers may hold different views of what geographical enquiry is and that they understand it in diverse ways.

As a matter of illustration, Roberts (2003:14-15) carried out a small-scale case study research into the nature of geographical enquiry. This explored the thinking of teachers regarding the enquiry-based approach in their classroom practices. Butt (2002:124) notes that Roberts employed two key questions: “What do you understand by Geography enquiry?” and “Can you give examples of geographical enquiry in your Key Stage course?”

The findings of Roberts’ (2003:14-15; 2010:6) research revealed that many teachers associated enquiry with a fieldwork approach in Geography teaching. Other teachers pointed out that the enquiry comprised an orderly process of learning in which learners worked on their own. The findings showed variations in the significance that teachers attached to the collection of quantitative and qualitative data, either from primary or secondary sources, during the enquiry process. It is also noted that “[t]he teachers were influenced in their thinking by their own personal biographies and by ways in which they had encountered enquiry in their own lives as students and teachers” (Roberts 2003:15; 2010:6).

Butt (2002:124) makes three observations regarding the challenges of teachers in enquiry-based teaching in Geography. First, many Geography teachers are not sure about the role and nature of enquiry in geographical learning. They are uncertain about how enquiry skills can be integrated in studies regarding places and themes. Second, some teachers regard enquiry as any kind of active learning, while others view it as a task, “an enquiry” usually completed while lessons are in progress. Third, some teachers also believe that, in enquiry learning, learners respond to open questions rather than passively receiving information from the teacher.

Another criticism of the enquiry-based approach, referring to Catling and Willy (2010:64), suggests that many teachers are not aware of diverse skills employed in enquiry learning. In

this regard it is noted that teachers are reluctant to combine the skills, and would rather use the skills in isolation. Perhaps this is the case because they lack confidence in their teaching abilities and the learning capabilities of the learners. Despite these criticisms, most of the Geography educationists agree that an enquiry approach is more essential to effective Geography teaching and learning (Roberts, 2003:10; Butt, 2002:124). In support, Roberts (2010:9) argues that education should encourage learners to challenge authoritative views, to be critical of what is presented to them and to question constantly. It is further argued that learners need to constructively make sense of the world and their own experiences within it, through their active engagement in learning Geography.

As alluded to in the sections above, Davidson (2002:81) observes that there is a connection between the enquiry approach in Geography and social constructivist theory. The next section expounds further on this aspect.

2.3.5 Social constructivist learning theory in Geography teaching

Vygotsky and other social constructivists view knowledge and hence learning as constructed by the interactions of individuals within society (Applefield *et al.*, 2001:38). Learning is seen as resulting from the internalisation of social interaction, reshaping and transforming new information (Warnich & Meyer, 2013:16). Furthermore, in the constructivist classroom, there is a notable emphasis on social and communication skills as well as on the exchange of ideas (Du Plessis & Muzaffar, 2010:34). This is in contrast to the traditional classroom in which learners primarily work individually and learning might be attained through repetition as part of the conditioning in behaviourist theory, which is criticised in social constructivism (Van Harmelen, 1999:80).

Rather than emphasising the role of learning outcomes in behaviourism, social constructivist learning requires learners to actively participate in problem solving and critical thinking in their learning activities. This learning can be constructed through interactions with friends, families and other groups and it is believed that knowledge is mutually constructed (Lambert & Balderstone, 2010:148).

The zone of proximal development [ZPD] in social constructivist learning is one of the instances in which knowledge might be mutually constructed (Roberts, 2003:28-29). ZPD refers to how learners can solve problems that are beyond their existing levels of understanding if they are provided with “slight assistance”. This provision of assistance takes

into account the difference between what a learner could do without assistance and what the learner could accomplish with some kind of support.

Vygotsky's ZPD notions demonstrate that teachers have an important part to play in providing support in enquiry learning. In this regard, "[t]he teacher becomes more of a classroom observer carefully studying the actions of the learners, listening to conversations about the task, trying to make sense of their reasoning and the strategies being used to resolve the cognitive conflict" (Lambert & Balderstone, 2010:148). In other words, Vygotsky's ideas challenge the view of a totally independent enquiry work for learners. It is suggested that each time learners interact with new conceptual frameworks that are beyond their existing stages of thinking, the learners will need the support of the teacher to get to higher levels of thinking (Roberts, 2003:29). In social constructivism, scaffolding therefore is close to the idea of ZPD and is regarded as one of the forms of offering support to the learners (Du Plessis & Muzaffar, 2010:34).

Roberts (2003:31) points out that the term scaffolding was first developed by Vygotsky. Vygotsky's research work with children revealed that, when learners worked in collaboration with adults, their concepts could be developed. Thus scaffolding, according to Du Plessis and Muzaffar (2010:34), is changing the level of support given to a learner in teaching and learning as learners navigate between upper and lower cognitive levels in a teaching session.

In this case adults or indeed teachers are seen as providing "light assistance" to help learners handle problems that they could otherwise not handle independently. This suggests that scaffolding comprises aspects such as a collaborative interactive process between teacher and learners engaging in dialogue (Du Plessis & Muzaffar, 2010:34). At the same time, this enables the learners to get to higher levels that they would not easily achieve without support. Furthermore, the overall aim of scaffolding is to provide learners with opportunities for carrying out learning activities independently without the need for scaffolding (Catling & Willy, 2010:63; Roberts, 2003:32).

Recent research shows that the implementation of pedagogical approaches such as learner-centred and enquiry-based teaching and learning have been facing a number of challenges in Namibian schools (Zeichner & Ndimande, 2008; O'Sullivan, 2004). The significance of these teaching and learning approaches for exploring the complexities of the world in Namibian schools was also expressed by the Ministry of Education and Culture (1993:60) in its

assertion that: “Our teaching methods must allow for the active involvement and participation of learners in the learning process. Teachers should structure their classes to facilitate this active learner role.”

2.4 Learner-centred Education in Namibia: The Policy Context

To help learners participate meaningfully in universal quality education and become more actively engaged and critical in their learning, the Ministry of Education embarked on educational reform that was designed to shift from the existing behaviourist teacher-centred to learner-centred education.

2.4.1 Background of learner-centred education

Swarts (2003:5-6) states that, LCE in Namibia is a policy in the development brief, *Toward Education for All*. As a policy, LCE finds expression in the four major goals of education, namely: access, equity, quality, and democracy. Access refers to the universal participation in education of all children in schools where the teaching and learning processes also ensure that knowledge and understanding are accessible to them and motivate them to attend classes regularly and stay in school longer. What this implies is that the content and the ways of delivery it need to be approached in such a way that they contribute to the full development of the cognitive skills of all learners so that they can achieve their goals to the fullest.

Equity, as part of LCE policy, means that access to quality education should not be hindered on the basis of differences in race, gender, and social class. The teachers and the learners need to refrain from engaging in open or hidden forms of learning processes that lead to other learners not benefiting from learning activities because they are black, coloured or white, for example. There should be equal treatment of all, for more and not less learning of all the learners.

In terms of quality, LCE should be relevant, meaningful, and reasonable in promoting learning in the classroom and in out-of-classroom contexts. The curriculum, the teacher, materials and the learning environment should all be of a high standard. This means that there should be clearly defined standards to facilitate the monitoring and subsequent improvement of quality of education.

Lastly, democracy, when featured as part of LCE, means that education should be democratically structured and that democracy should be taught and experienced so that it promotes critical thinking skills (Swarts, 2003:6). In democratic education, teachers should

be active creators and managers of the learning environment so that learning engages learners more actively (Ministry of Education and Culture, 1993:42). This suggest that learners should be involved in decision making regarding what needs to be learned and is taught, as well as why and how.

The position of the Ministry of Education and Culture (MEC, 1993:60) on the shift to the learner-centred approach was as follows:

Our teaching method must allow active involvement and participation of learners in the learning process. Teachers should structure their classes to facilitate the active learning role. Often that will mean organizing learners in small or larger groups or pairs, or working with them individually. It will mean as well using teaching techniques that fit the purpose and content of the lesson and at the same time encourage active learner participation, for example, explaining, demonstrating, posing questions, checking for understanding, helping, providing for active practice, and problem solving.

Consequently, the policy entailed a search for a constructivist approach to guide the learning processes in Namibian schools. In these ways learning and teaching processes in Namibian schools were to be characterised by activities that enabled the learners to draw on their previous knowledge in analysing, synthesising, reconstructing and applying new knowledge. Teaching needed to emphasise the diverse processes and learning experiences essential for the creation of knowledge, rather than relying predominantly on the transmission of knowledge by the teacher (Ministry of Education, 2009:4).

The activities listed in the foregoing paragraph put the learner at the centre of learning in the teaching and learning process and reflect elements of EBL. Research suggests that the enquiry-based approach has been found useful in teaching and learning in other parts of the developing world. From the literature reviewed, it is evident that learner-centred approaches tend to be more visibly mentioned in policy and research-based documents in Namibia than the specific idea of EBL.

2.4.2 LCE and EBL approaches in the curriculum

The Namibian Basic Education Curriculum aims at preparing learners for a knowledge-based society that requires a learner-centred approach to teaching and learning. Teaching and learning needs to begin with what the learners already know and can do with their previous knowledge, then proceeding with construction of new knowledge. Learning should engage learners in relevant and meaningful activities as well as in acquiring skills on how to apply their knowledge creatively and innovatively. In this case, knowledge is not learnt on its own

account, but always leads to new understanding, acquisition of new skills and the creation of new knowledge. At each step of the way, learners must show how competent they are in what they understand and can do (Ministry of Education, 2009:4). Although not clearly reflected in policy documents and the curriculum, teaching and learning of this nature constitutes enquiry-based learning.

In the implementation of these aspects of EBL, basic education aims to develop learners with a flexible and enquiring mind, critical thinking skills, the capacity to adapt to new situations and demands, and to learn continuously on their own initiative. Basic education thus allows learners to develop individual understanding, creativity, the ability to construct alternative solutions to problems, and to make independent, informed decisions in real-life situations (Ministry of Education, 2009:9). The ways in which learner-centred, enquiry-based teaching and learning is supposed to operate in the context of basic education are demonstrated in Figure 2.3 below:

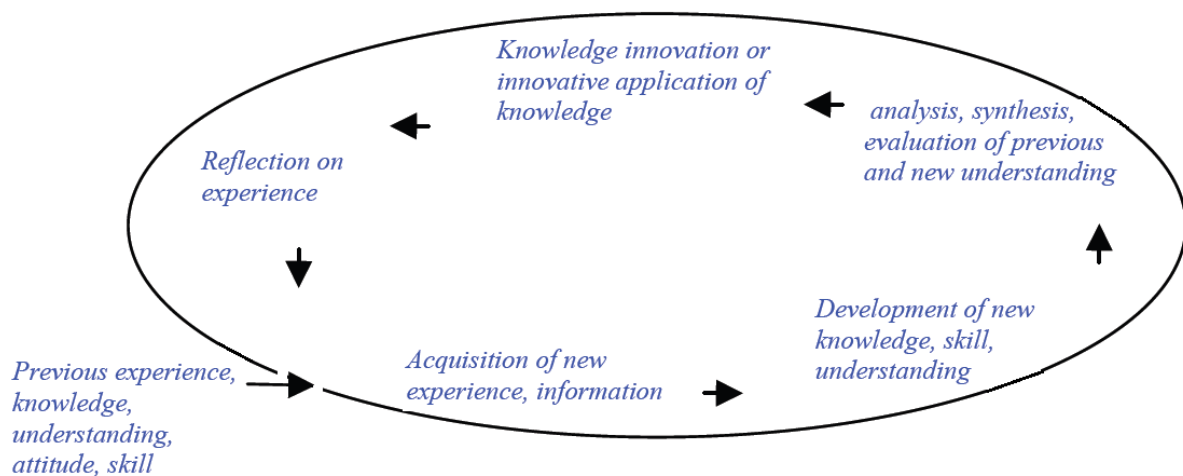


Figure 2.3: Knowledge Cycle

Source: The National Curriculum for Basic Education (MoE, 2009:30).

As observed by researchers such as Zeichner and Ndimande (2008) and O’Sullivan (2004) aspects of learner-centred and enquiry-based teaching have not been effectively employed in Namibian schools. Although this is the case, these elements are included in curricula such as the Junior Secondary Geography syllabus.

2.4.3 Position and aims of the Junior Secondary Geography syllabus

The Namibian Junior Secondary Phase Geography syllabus defines Geography as a study of the earth, and the interaction between earth, humans and nature. At the centre of teaching and learning in Geography is the examination of interdependence between humans and the earth. In particular, the study of Geography involves examining ways in which humans adapt nature to meet their needs, as well as how humans utilise environmental resources sustainably (Ministry of Education, 2010:2).

These features that need to characterise teaching and learning in Geography are elaborated upon in the Junior Secondary syllabus as follows: Firstly, Geography equips learners with an understanding of the political, social, economic and biophysical dimensions of the world. These may prepare learners to operate effectively in their society and the environment as responsible members of their community. Secondly, Geography provides learners with knowledge for dealing with risks and challenges that might affect the pursuit of quality life and enjoyment of healthy environments. Lastly, Geography facilitates acquisition of skills and competencies that will both enable learners to navigate their world and its risks and challenges, and proceed with geographical education beyond Junior Secondary Certificate Phase (Ministry of Education, 2010:3).

According to the Ministry of Education (MoE, 2010:2), the aims of the Geography syllabus are to encourage learners to develop:

1. knowledge with understanding of:

- the terminology, concepts and systems fundamental to a study of physical and human Geography;
- the relationships and interactions of people and the environment in response to physical and human processes, as well as aspects of the changing world;
- a sense of place and relative location on a local, regional, and global scale, with special emphasis on Namibian examples;
- HIV/AIDS and its impact on socio-economic development.

2. an awareness:

- of the characteristics and distribution of a selection of physical and human environments;
- that on earth and also in our country there are different ways of life, and [this] should lead to a positive attitude towards diversity;

- of the factors that cause change in the diverse environments;
- and sensitivity to gender issues.

3. an appreciation of:

- The potentials and limitations of the physical environment for human activities;
- How human activities can lead to environmental problems and improvements;
- The environment and the need for conservation.

4. geographical skills: to be able to observe, collect and represent data, analyse and interpret data, and present findings. (Information Communications Technology (ICT) should be used if available and applicable).

In the Geography syllabus, the aims and the following competencies and learning outcomes reflect the relationship between learner-centred and enquiry-based approaches.

Competencies and learning outcomes

On completion of the Junior Secondary Phase Geography, all learners are expected to be able to (Ministry of Education, 2010:48):

- *Investigate*: ask for, observe, investigate and enquire;
- *Interpret*: comprehend, distinguish, interpret, translate data, explain, compare, synthesize and classify;
- *apply knowledge and skills*: measure, locate, produce, identify, build, make, demonstrate, do basic fieldwork, draw sketches, etc;
- *communicate*: tell, act out, draw, write, explain, show, display, report and dramatise.
- *value*: show appreciation, evaluate, decide and infer.
- *participate*: take part, participate and present.

2.4.4 Assessment in learner-centred approaches in Geography

Assessment plays a significant role in the teaching and learning processes in providing teachers with evidence of what the learners know, understand and can do (Department of Basic Education, 2011:49; Lambert & Balderstone, 2010:378). The Department of Basic Education (2011:49) defines assessment as an on-going, planned process in which teachers identify, gather and interpret information about the performance of the learners, and may take different forms. Lambert and Balderstone (2010:378) elucidate further that good assessment “is altogether more messy—more ‘art’ than ‘science’— and rests on teachers making

dependable and fair judgments of value [of] pupils' work". This implies that the fundamental educational purpose of assessment is to offer feedback to the learners in order to help them progress in their learning. Feedback avails learners the opportunity to constantly monitor and regulate their own learning and, in doing so, evolve into independent self-directed lifelong learners (Warnich & Meyer, 2013:119).

Vavrus *et al.* (2011:91) observe that, in countries where LCE is central to the national curriculum, the skills of analysis, synthesis, and critical thinking essential in nurturing independent learning are seldom tested, especially through enquiry-based questions. In SSA, for example, constant emphasis on the right facts and format for answers in high-stakes national examinations prevents many teachers from employing approaches that develop important enquiry skills in learners (Vavrus *et al.*, 2011:91; Vavrus & Bartlett, 2012:641). The learners are mostly exposed to teaching to the test and are not formally assessed as to how conversant they are with enquiry skills. This suggests that assessments that are in use in most parts of Africa overlook the constructivist approach, but "reflect behaviourist assumptions about knowledge as discrete, sequential, and classifiable into correct and incorrect categories" (Vavrus *et al.*, 2011:91).

Since LCE promotes learning with understanding, as evinced in the preceding sections, it is vitally important for teachers to use varied instructional assessment strategies. In fact, assessment in LCE needs to target learning strategies that nurture creative thinking in learners because there is more to learning than just acquiring facts and figures (Warnich & Meyer, 2013:18). Learners need to demonstrate their ability in comprehending concepts instead of merely restating them; in applying theories to various contexts and analysing new problems critically on their own and with others (Vavrus *et al.*, 2011:92). The transition to learners with these attributes has involved a profound shift from traditional end-of-year examinations to a system of continuous assessment throughout the school year (Du Plessis & Muzaffar, 2010:68). In this regard, continuous assessment has evolved into an indispensable aspect of numerous endeavours in reforming educational systems.

Du Plessis and Muzaffar (2010:68) assert that assessment should be formative rather than only summative. This means that assessments should occur throughout a school term as a form of feedback rather than being summative, which has very limited potential in feeding forward to inform future learning (Du Plessis & Muzaffar, 2010:70). In contrast, formative

assessment needs to be designed in such a way that it informs teaching to enable teachers to adapt teaching to cater for the learning of the majority of the learners.

Through formative assessment, teachers initially evaluate learners' prior knowledge on a topic before teaching a new unit so as to determine the most appropriate level at which to begin a lesson. For teachers to expand on learners' prior learning it is necessary to know what that prior knowledge comprises. Prior knowledge consists of aspects such as learners' knowledge and skills in a specific content area; the attitudes of the learners regarding the value and their interest in the subject; their levels of initiative and self-reliance in learning; and their communication proficiency (Warnich & Meyer, 2013:20). These aspects reveal to teachers whether or not the learners are capable of engaging with the learning material on the basis of its level of difficulty.

Formative assessment demands that assessment be done throughout a term, unlike a single assessment activity being an unduly large part of a learner's overall mark for a class. Teachers need to plan and implement a variety of assessment mechanisms for use throughout the term or year. They may implement performance assessments together with more traditional paper-and-pencil tests, and tests with tasks that demand higher order thinking skills and deeper understanding (Du Plessis & Muzaffar, 2010:71).

Authentic tasks should be central to assessments. Falling under the heading of 'authentic' are various tasks that share the assumption that knowledge is complex, enacted, and grounded in real-world experiences and problems. Vavrus *et al.* (2011:93) suggest that the following types of performance assessment generally qualify to be authentic tasks:

- Experimenting with substances and materials,
- Demonstrating skills in real-world situations,
- Research on projects that involves multiple steps in the planning process and different sources of information,
- Role playing, skits, songs, and dramatic interpretations of phenomena or events.

The significance of these authentic tasks is that they allow learners to be active, creative, and critical in thinking about how principles and concepts learned in class could be applied in varied contexts, and they also facilitate the use of different assessment tools by teachers. Two of the primary assessment tools are, firstly, checklists, which teachers and peers usually complete during a performance or shortly after an activity to provide quick, immediate

feedback to the learners. Secondly, rubrics allow the teachers to indicate broad categories for assessment that, together, provide a more complete picture of the learners' work than a single grade for an entire project (Du Plessis & Muzaffar, 2010). These tools can be employed in providing learners with more holistic feedback on their work without the cost of an unnecessary burden on the part of teachers (Vavrus *et al.*, 2011:93-94).

As mentioned earlier, there is too much emphasis on the use of tests or examinations to assess learners summatively in most schools in SSA. The teachers are therefore unnecessarily burdened by the pressure "to 'teach to the test' and only to value achievement which 'scores' in examination terms" (Lambert & Balderstone, 2010:378). While the examination results have high stakes for both the learners and teachers, because of the pressure to improve results year after year, teaching should not overlook the essence of formative assessment.

The policy of *Education for All* points out that one part of Namibian reform is to re-think the role of examinations. In the past, the examination was regarded as the sole measure of success in individuals and programmes, but after independence examinations became one of several tools for assessing and evaluating progress. The Curriculum for Basic Education (Ministry of Education, 2010:30) emphasises that assessment and examinations should support learning, but not drive the learning process. Continuous assessment must be clear, simple and manageable, and explicitly anchored in learner-centred principles and practices. Teachers must elicit reliable and valid information about the learners' performance in the basic competencies. This information will then be used to give feedback to the learners about their strong and weak points; where they are doing well, and why; and where they need to try more, how and why (Ministry of Education, 2009:37)

2.4.5 Approaches to teaching and learning Geography in Namibia

The approach to teaching promoted in the Geography syllabus employs the LCE paradigm described in the MoE's policy documents, curriculum guides, and conceptual frameworks (Ministry of Education, 2010:7). This approach is meant to facilitate the attainment of optimal quality learning when the following principles are put into practice: learning is tailored towards developing learning with understanding, and skills and attitudes to contribute to the development of the society. In this case teaching and learning takes advantage of wealth of knowledge and social experience acquired constantly from the family and the community, and through interaction with the environment. Learning in school must involve, build on, extend, and challenge the learner's prior knowledge and experience.

It is further argued that learners learn best when they are actively involved in the learning process through a high degree of participation, contribution and production. Learning should consider that each learner is an individual with his/her own needs, pace of learning, experiences and abilities. In structuring learning, the teacher must be in a position to determine the needs of the learners, the nature of the learning to be done, and how to shape learning experiences accordingly. Flexible and varied teaching and learning strategies must therefore be employed within well-structured sequences of lessons.

The objectives and competencies to be achieved, should guide the teacher on the following:

when it is best to convey content directly; when it is best to let learners discover or explore information for themselves; when they need directed learning; when they need reinforcement or enrichment learning; when there is a particular progression of skills or information that needs to be followed; or when learners can be allowed to find their own way through a topic or area of content. (Ministry of Education, 2010:7)

Cooperative and collaborative learning should be constantly encouraged. Learners should work in groups, in pairs, individually, or as a whole class in line with the demands of the tasks at hand. The tasks need to be relevant to pair or group work, otherwise learners will be demotivated when they see that the tasks are not worthy of collaborative work. The collaborative work should be implemented in such a way that the learners develop personal, social and communication skills that will enable them to participate responsibly in planning and evaluating their own work with the supervision of the teacher.

2.5 Summary

This Chapter argues that there are possibilities for Namibian schools to promote access to universal quality education through the implementation of innovative learner-centred, enquiry-based learning approaches in subjects such as Geography. It is noted that the policy context acknowledges the significance of learner-centred, enquiry-based learning in facilitating the acquisition of knowledge and skills useful for continuous learning and dealing with socio-economic and environmental challenges in life. This happens because a constructivist approach is employed in the teaching and learning processes in which active learner participation is the major focus, so that there is more and not less learning.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The research methodology processes and decisions that guided the research for this study are discussed in this chapter. In order to gain insight into the Geography teachers' understanding and implementation of learner-centred and enquiry-based approaches, the study was located within the interpretive paradigm. The chapter discusses and justifies the methodological choices with regard to sampling, data collection, analysis and interpretation that were made in this qualitative study. Finally, the significance of validity, reliability and ethical considerations employed in this study are explained.

For me as a researcher it was important to know to the best of my ability that the methodology I had chosen would put me in the best position to answer the research questions stated in Chapter 1. The following Figure 3.1 captures the thinking I went through when developing this specific design.

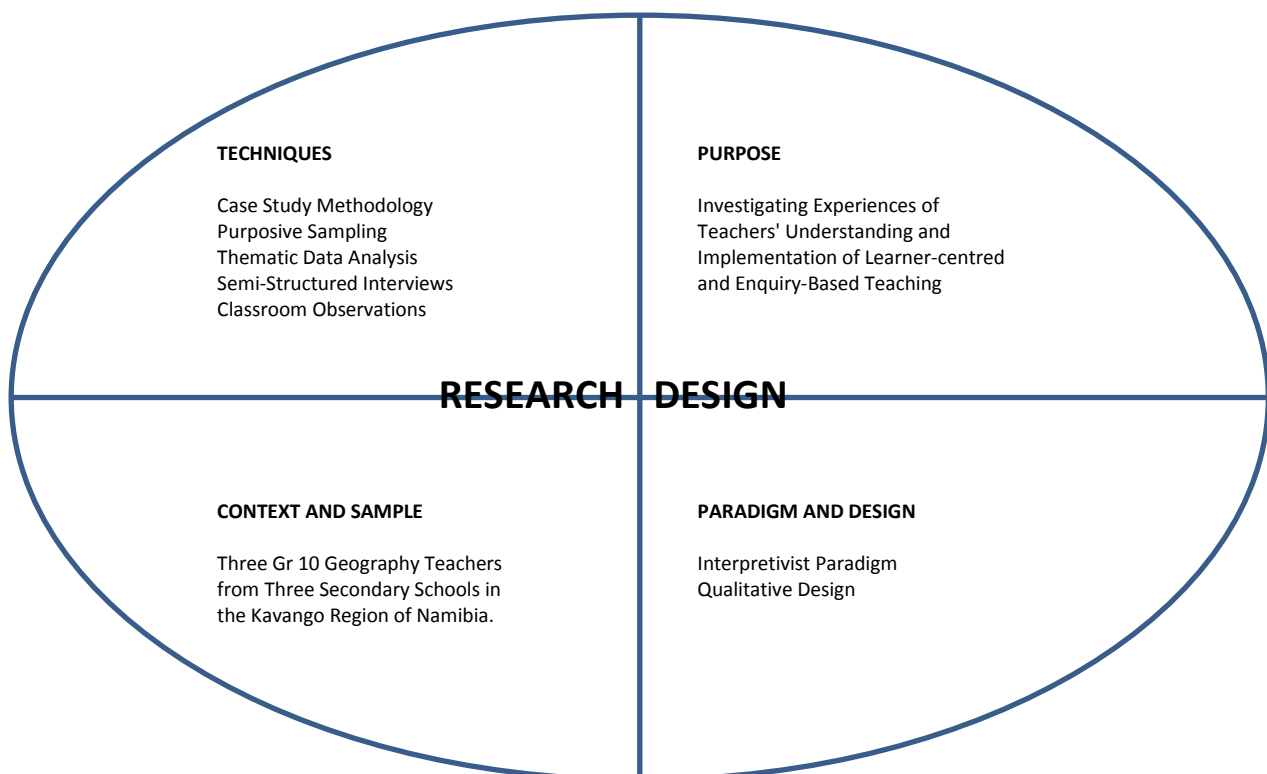


Figure 3.1: The Research Design for this Study

In the following discussion I will start to unpack the process of my research design. As outlined in Chapter 1, this study was aimed at examining the nature of current teaching approaches used in Geography classes in the sampled Namibian Secondary schools. It is important to know that the methodology a researcher chooses depends on the nature of the questions the researcher asks.

3.2 Research paradigm

A paradigm is a system of closely related ontological, epistemological and methodological assumptions that act as a perspective which provides a rationale for the research and obliges the researcher to use particular methods of data collection, observation and interpretation (Maree, 2011:55). In explaining this argument further, Denzin and Lincoln (2011:13) are of the opinion that the researcher approaches the world with a set of ideas, a framework (theory, ontology) that specifies a set of questions (epistemology), which are then examined (methodology, analysis) in specific ways. These aspects suggest that the empirical materials relating to the research questions are collected and then analysed and written about. The researcher is “bound within a net of epistemological and ontological premises which – regardless of ultimate truth or falsity – become partially self-validating” (Denzin & Lincoln, 2011:13). This net that encompasses the researcher’s epistemological, ontological, and methodological premises can be described as a paradigm or interpretive framework, i.e., a “basic set of beliefs that guides action” (Denzin & Lincoln, 2011:13).

As my aim was to develop an understanding of and gain insight into the Geography teachers’ experiences and implementation of learner-centred and enquiry-based teaching approaches, the study was located within the interpretive paradigm, as suggested above. The meanings that I attached to my engagement with participating teachers, their practices and the contexts in which they work, were to be used collectively to acquire this understanding or interpretation. Consequently, this paradigm is sometimes viewed as a form of constructivism because it puts emphasis on the ability of an individual (me as the researcher) to construct meaning (Dawidowicz, 2011:8). Maree (2011:59) argues that interpretive researchers start out with the assumption that “access to reality (given or socially constructed) is only through social constructions such as language (including text and symbols), consciousness and shared meanings”. This shows that interpretive studies, such as the present one, in general attempt to understand phenomena through the meanings that people (I and those with whom I engage) allocate to them.

The central aspect in the context of the interpretive paradigm is to understand the subjective world of human experience while retaining the integrity of the phenomena under investigation (Cohen, Manion & Morrison, 2011:17). Attempts are then engaged in to unlock the person's experiences from her own perspectives. This is the reason why the interpretive research puts emphasis on the fact that phenomena cannot be objectively observed from the outside by outsiders, but should rather be accessed through the direct experiences of people in a specific context. In this regard, one of the main tasks working in this paradigm was to “understand, explain, and demystify social reality through the eyes of different participants” (Cohen *et al.*, 2007:19). The role that research participants would play would therefore be to describe their social reality themselves, while I sought to understand and explain that reality.

3.3 Research design

According to Mouton (2011:49), a key question in thinking about a particular research design is: “What type of study will be undertaken in order to provide acceptable answers to the research problem?” This suggests that a researcher needs to choose ways of collecting and analysing data that will enable him/her to answer the stated research question(s). In this way the research design functions as a strategic plan for how the researcher intends to conduct the research in a way that valid deductions can be made from meaningful data without causing any harm to those that participate in the process.

Mouton (2011:56-57) elaborates that a suitable research design for a specific research project emerges from the research problem or question. Research design also considers all possible study outcomes and the kind of evidence that is required in the study to address the research problem. In this regard, the design works with research methodology that relates to the steps and procedures employed in the study. To answer the research questions relevant to this study, the researcher chose a qualitative research design. Qualitative data mainly were therefore used to investigate the experiences of Geography teachers in implementing learner-centred and enquiry-based teaching.

The choice of the qualitative design follows Leedy and Ormrod's (2013:140) assertion that a qualitative approach is a systematic, subjective approach to describe life experiences and give them meaning. Fraenkel and Wallen (2008:423), in addition, argue that “qualitative researchers want to know what the participants in a study are thinking and why they think what they do”. This suggested that the teachers' assumptions, motives, reasons, goals, and values would be of interest as I attempted to answer the research questions. At another level,

this qualitative study was expected to provide a means through which I would be in a position to judge the effectiveness of particular educational policies, practices, or innovations.

One of the greatest strengths of the qualitative approach is the richness and depth of explorations and descriptions it may yield. This is partly possible because of the insider role the researcher plays as he/she becomes the instrument through which the data is collected and analysed. At the same time, however, most of the critique levelled against the interpretivist research paradigm is directed at the subjectivity and the failure of the approach to generalise its findings beyond the situation studied (Dawidowicz, 2011:5; Maree, 2011:60).

Based on the above explanation, the qualitative researcher is not concerned with objective truth, but rather with truth from the informant's perspective. Against this background, the qualitative approach in this study was seen as the most appropriate as I tried to understand teachers' experiences in implementing learning-centred and enquiry-based teaching in Geography. This study, which was aimed at understanding some aspect of social life (teaching), made use of methods which generated words, rather than numbers, as data for analysis (Quinn & Cochran, 2002:2).

3.4 Research methodology

The development of an appropriate research methodology was necessary to guide me as the researcher and enable readers to understand the rationale for making particular choices. A case study research methodology was chosen for this study. Case study research in education is usually carried out so that specific issues and challenges in instructional practice can be identified and explained in terms of the particular research questions (Leedy & Ormrod, 2013:141; Dawidowicz, 2011:7). This view is supported by Bromley (1990:302, cited in Maree, 2011:75), who argues that a "case study is a systematic inquiry into an event or set of related events which aims to describe and explain the phenomenon of interest". Furthermore, a case study is a preferred methodology in research when "how" and "why" questions are to be asked (Yin, 2014:11; Maree, 2011:75).

From the interpretivist perspective, the typical characteristic of case studies is that they attempt to understand how participants relate and interact with significant others in a specific situation and how they make meaning of the phenomenon under study (Maree, 2011:75). In this regard, it can be argued that case studies offer a unique example of real people in real

situations, and it offers a platform to understand the research phenomenon authentically rather than in abstract theoretical and conceptual terms (Cohen *et al.*, 2011:289).

For this study, a multiple-case study methodology was used to explore teachers' experiences in implementing learner-centred and enquiry-based teaching in Geography at three different schools. Multiple case studies do have distinctive advantages and disadvantages as compared to single case designs (Yin, 2014:57). The choice of a multiple-case study method as opposed to single-case design for this study was because "[t]he results of multiple case studies are often compelling, and they are more likely to lend themselves to valid generalization". (Fraenkel & Wallen, 2008:431). In addition to that, Yin (2014:57) states that the evidence from multiple cases is often considered more persuasive and the overall study is therefore regarded as being more robust in terms of evidence.

Campbell (1975:180), cited in Cohen *et al.* (2011:291) argues against single-case studies, suggesting that having more than one case study for comparative purposes is worth more than having double the amount of data on a single-case study. This implies that the strengths and weaknesses of different aspects of a method and how it is implemented in different situations can be studied through comparison and contrast (Dawidowicz, 2011:7). As such, using a multiple case study enabled me to understand the research participants' words and actions within the theoretical perspective(s) of LCE as adopted in Namibia, by using the process of multiple data collection and analysis.

Another strength of the case study method lies in the use of multiple sources and techniques as processes for data gathering. Data gathered are normally qualitative, but may also include quantitative data. The tools to collect data in this present study included qualitative data collection techniques such as semi-structured interviews and classroom observations.

The choice of a multiple-case study methodology for this research project was done with the knowledge that it also has a number of limitations. According to Nisbet and Watt (1984), as cited in Cohen *et al.* (2011:293), case studies have the following weaknesses: Firstly, results of case studies may not be generalisable, except where other readers or researchers see usefulness in their application. Secondly, case studies are not easily open to cross-checking; hence they may be selective, biased, personal and subjective. Thirdly, they are disposed to experiencing problems of observer bias, regardless of attempts researchers make to address reflexivity – the researcher being aware of her effect on the process and outcomes of the research.

However, while the research findings of this study may not be generalisable, they can be applied to other similar cases. This implies that, even though the findings of this research are specific to the particular research contexts of the three schools, they may be relevant to a number of other secondary schools in Namibia. This is possible because the use of multiple sources of evidence are rated highly and relied upon in terms of the better overall quality they may offer compared to single sources of data (Yin, 2014:119).

3.5 Research methods chosen for this study

Research methods are generally viewed as a range of approaches employed in educational and other forms of research to collect data which serve as a basis for a study's interpretations and explanations. In this case study I collected data on individuals, their practices and/or schooling events related to the study by using semi-structured interviews and classroom observations.

3.5.1 Semi-structured interviews

An interview is an interactive conversation in which an interviewer asks a participant questions aimed at gathering meaningful data about specific processes or products. The interviews allow the researcher to learn about the ideas, beliefs, views, opinions, and behaviours of the participants. In such ways qualitative interviews offer the researcher opportunities to see the world through the eyes of the participant and the interviews become a valuable source of information, as long as they are carried out correctly (Maree, 2011:87). The central purpose of using the interviews is to obtain rich descriptive data that helps the researcher to understand the participant's construction of knowledge and social reality (Maree, 2011:87) of "a little known or poorly understood situation" (Leedy & Ormrod, 2013:141).

In this study, semi-structured interviews with three Grade 10 Geography teachers were carried out using an interview guide (see Appendix C) that required the participants to answer predetermined questions. Semi-structured interviews were used for this study following the claim made by Maree (2011:87) that such interviews allow for probing and clarification of answers from the participants. Semi-structured interviews are sometimes called guided conversations where broad questions around a predetermined topic are asked in an informal way.

The choice of open-ended questions in the semi-structured interviews was selected as it was expected to be the most efficient way to collect ‘textured’ data from the participants. The reason was that open-ended questions are thought to allow an individual time and scope to discuss their perceptions and knowledge. In addition, Maree (2011:87) and Slavin (2007:131) make the point that open-ended questions allow the participants being interviewed to tell their stories, to respond at length, and to take the interview into directions that were not anticipated by the researcher.

The interviews were used to find out about the teachers’ experiences and understanding of teaching Geography and using the required learner-centred approaches with the elements of enquiry-based teaching in their classrooms. All the individual interviews were conducted at the teachers’ respective schools during non-teaching periods or after school hours. The teachers organised an office in the administration block at each school for the interviews to ensure privacy and avoid disruptions during the discussions. The interviews, which were conducted in English, were audio-recorded with the consent of the teachers and transcribed in preparation for the analysis process.

Permission to conduct interviews with the teachers was agreed upon through letters seeking permission from the principals of the three schools concerned. Each of the principals nominated a Grade 10 Geography teacher who agreed to participate in the study. The individual teachers arranged the times for the interviews and classroom observations. The interviews were only conducted after consent forms had been completed by each participating teacher. Since this study involved three case study schools, the findings also helped to make certain comparisons between the schools regarding teaching and learning of Geography. Chapter 5 provides a discussion the key findings of the study in detail.

The following sub-question drawn from the main research question was answered primarily through the semi-structured interviews: How do Geography teachers in Namibia understand the use of learner-centred education and its approaches?

3.5.2 Classroom Observations

Observation was chosen as a data collection tool in this study because observations offer a researcher the opportunity to gather “live” data from real-life social situations (Cohen *et al.*, 2011:456). Quinn and Cochran (2002:20) also affirm that direct involvement through observation of the phenomenon of interest stands as one of the most useful research methods

for understanding the complexities of various situations. It is important for the data collected during observations to be descriptive so that the researcher can explain what happened and how it happened. Observational data is also very useful in overcoming discrepancies between what people say and what they actually do (Quinn and Cochran 2002:20). It is suggested that this might help a researcher discover behaviour, attitudes and knowledge which the participants themselves may deliberately or inadvertently overlook during interviews.

In this study, I employed structured observations as a means to gather data about how teaching and learning takes place in Geography classrooms (see Appendix D). I acted as a nonparticipant observer and tried not to alter the situation being observed in any way. I simply recorded whatever meaningful aspects I noted in the classroom. Due to the nature of the study and the time constraints, I used an observation schedule to keep the focus on finding answers to the stated research questions. Some of the data collected was recorded on a voice recorder and other information on observation sheets. The classroom observations were carried out with the teachers who were interviewed.

Since my research was focused on the teaching and learning processes taking place in the classrooms, both learners and teachers were observed. During the classroom observations, the voice recorder was placed in front of the class on the teachers' table with the approval of the teacher so that the verbal interactions between the teacher and learners could be recorded clearly. I sat in one of the back corners of the classroom to be able to observe all the activities taking place during the lessons without disturbing the teaching process or learners. Additional observational notes were made to be able to provide a thick description of the instructional processes and what was happening in the classrooms. The notes the teachers made on the chalkboards were also copied down if deemed necessary and useful for the eventual data analysis.

During the observations I focused on how the teacher was interacting with learners, and to what extent the teaching and learning revealed the characteristics of learning-centred and enquiry-based approaches. In addition to that, contextual information such as classroom size, classroom layout, facilities, and resources were also recorded. All the classroom observations were done within the school sessions without causing any interruption of the regular class timetable.

The following research question was investigated, mainly through the use of classroom observations: How do Geography teachers in Namibia implement learner-centred education, specifically the elements of enquiry-based teaching?

3.5.3 Sampling

According to Cohen *et al.* (2011:144), sample size in research might be suggested by the style of the research the researcher plans to carry out. In this study, the sampling process followed Leedy and Ormrod (2013:215) who have observed that samples might be purposively chosen for their potential to yield “diverse perspectives on an issue”. This is because the rationale of qualitative research is to facilitate the purposeful selection of participants, sites or documents that will enable the researcher to answer the research question. In this qualitative investigation the sample size was relatively small – three Geography teachers who are teaching at three different schools in the Kavango region in Namibia.

Geography is taught in all secondary schools in this region, but this research purposively sampled only three schools. Purposive sampling simply means that participants are selected on the basis of some defining characteristics that suggest that they are the custodians of the data required for the study. Sampling decisions are therefore enacted for the clear purpose of accessing the richest possible source of information for answering the research questions (Maree, 2011:79). Purposive sampling decisions were not only restricted to the selection of participants in this study, but also involved the settings, incidents, and activities to be included for data collection.

In terms of my study the following factors influenced my decisions to do research at the three specific schools. The schools are all in the same region and are not far from one another. This made it easier for me as a researcher to reach the schools. I live in this region and I am familiar with the schools, which made it convenient for me in terms of travelling, cost and ability to do research. The schools are situated in safe surroundings and are easily accessible by means of public transport that was available.

The sampled schools comprised one low-performing school [School A], one middle-performing school [School B] and one high-performing school [School C] chosen on the basis of performance in the Grade 10 final examination of 2013 in the Kavango region of Namibia (Directorate of Education, 2013). School A is the only secondary school catering for

learners in one of the low-income suburbs around the town of Rundu. School B is situated on the outskirts of the town and serves a low-income population. School C is a semi-government boarding school 30 km outside the town of Rundu. The parents of the learners at School C are of middle economic class. Chapter 4 presents detailed descriptions of the schools.

Using a purposive sample allowed me to draw useful recommendations from the results of this research that may be applicable to other secondary schools in Namibia. At least three participating teachers were purposively chosen in these schools because of their knowledge and expertise in Geography teaching. This was based on the assumption that there would be at least one Geography teacher for Grade 10 at each school and that these teachers implement learner-centred teaching as recommended by the Namibian education policies. The choice to work with Grade 10 learners was based on the fact that examination results are instrumental in determining whether learners proceed with their education when they pass, or exit the education system when they fail, as stipulated in Namibian government policy (MoE, 2011:20).

As indicated earlier, the gathering of data from more than one site is the key strength of case study research as it allows for the reinforcement and corroboration of evidence across multiple sources. The sample size of three cases was not determined by the need to ensure generalisability, but by a desire to investigate the research questions fully and provide information-rich data. A detailed explanation of the research contexts and participants is given in Chapter 4.

3.5.4 Data analysis

The essence of methods of analysis in studies largely lies in two aspects, according to Braun and Clarke (2006:81). Firstly, if the manner in which a study's data analyses are done is not clarified, it is not easy to evaluate the study's research process. Secondly, if the kinds of assumptions that informed the study's analyses are not known, it is difficult to compare or synthesise with similar future studies. In this regard, clarity regarding the processes and methods that were employed in data analysis and the reasons for doing so is important. The common practice, as is usually the case with research techniques, is that a study's data analysis should be suitable to the research paradigm and the design that is employed for the study.

This study adopted Braun and Clarke's (2006:86-95) thematic analysis, because it fitted well with the qualitative case study approach used in the study to investigate how the three Geography teachers experience and understand learner-centred, enquiry-based teaching and learning. This thematic analysis made it possible for the researcher to derive a "rich but detailed, yet complex account" (Braun & Clarke, 2006:78) of the data collected through interviews and classroom observations involving the Geography teachers. Sometimes the thematic analysis may simply be viewed as a method for identifying, analysing and reporting patterns or themes existing within data (Braun & Clarke, 2013:120; 2006:79).

Although thematic analysis is widely employed as an analytic method in qualitative studies, there is some disagreement regarding its exact nature in relation to other methods of analysis in qualitative studies. However, Braun and Clarke (2006:78) contend that thematic analysis should be regarded as a method of analysis in its own right. The significance of thematic analysis in a study such as the present one is that it bears four characteristics which make it a suitable method to a "wide range of research interests and theoretical perspectives" (Braun & Clarke, 2013:120). Braun and Clarke (2013:120) outline these characteristics of thematic analysis as follows:

- (a) it works with a wide range of research questions, from those about people's experiences or understandings to those about the representation and construction of particular phenomena in particular contexts;
- (b) it can be used to analyse different types of data, from secondary sources such as media to transcripts of focus groups or interviews;
- (c) it works with large or small data-sets;
- (d) it can be applied to produce data-driven or theory-driven analyses.

From the foregoing characteristics, it can be noted that when a study employs thematic analysis it enjoys the liberty or flexibility to approach the analysis from different theoretical perspectives (Braun & Clarke, 2006:78). One of these perspectives is the inductive approach, in which the themes identified are strongly interconnected with the data themselves (Braun & Clarke, 2006:83). This enables a researcher to employ a bottom-up process in the analysis of the data. The other perspective, as also suggested in the last characteristic above, is the deductive approach. This approach, also known as "theoretical" thematic analysis, allows the qualitative researcher to analyse the data from a top-down approach driven by some theoretical considerations or prior knowledge of the topics under investigation (Braun & Clarke, 2006:79-84).

This study largely adapted the deductive approach in its analysis of the data collected in the first phase of the research, in the form of the interviews conducted with the three Geography teachers. However, in the analysis of the data collected during classroom observations with the same three Geography teachers, some aspects of the inductive approach were employed because some of the questions on the classroom observation sheets were suggested by the gaps identified in the processing of the interviews.

It can also be noted from the four characteristics of thematic analysis presented above, that thematic analysis offers opportunities for data from different phases of research to be compared and contrasted. So, how were the data from the interviews and the classroom observations analysed? The data from the interviews were collected by administering an interview guide which was theoretically informed by the research question of how the Geography teachers understand learner-centred and enquiry-based teaching. Braun and Clarke (2013:120) argue that thematic analysis can be influenced by a wide range of research questions, including questions about people's experiences or understandings.

As will be evident in Chapters 4 and 5 dealing with the presentation of data and a discussion of the results of this study, the research questions enabled the research to make sense in "real-world terms" and to provide "rich, detailed data" and "deeper insight" (Braun & Clarke, 2013:121). As a challenge, the research also revealed that the Geography teachers in some instances had mixed understandings of what is involved in learner-centred and enquiry-based teaching. This challenge brought to the fore the significance of consulting secondary sources, which is one of the key characteristics of thematic analysis in this study.

In Chapter 5, in the discussion of the results of the study, as part of consulting the secondary sources, extracts from the transcripts of the interviews conducted with the Geography teachers are cross-checked with materials from secondary sources, policy documents, and similar previous studies. The cross-checking of the materials from the interviews has also been facilitated by data collected through classroom observations of the teachers who were interviewed. Braun and Clarke (2013:120), in their outline of the key characteristics of thematic analysis, above, also explain that thematic analysis can be employed in the analysis of different types of data.

It needs to be noted that the use of Braun and Clarke's thematic analysis of the data from the interview transcripts, the classroom observations, and policies in this study, has been facilitated by a consideration of Braun and Clarke's (2006:87-95) six principles and

procedures of thematic analysis. The essence of explaining these stages in the analyses of the data for this study lies in the argument that “even a good and interesting analysis which fails to spell out its theoretical assumptions, or clarify how it was undertaken, and for what purpose, is lacking crucial information” and therefore fails in some aspects (Braun & Clarke, 2006:95).

Braun and Clarke’s approach comprises six phases that delineate the principles and procedures of thematic analysis. The first stage is that of familiarising oneself with the data. Having transcribed the audio-recorded interviews, I read and re-read the transcripts of the interviews with the purpose of immersing myself in the data. In this process, I noted the first or initial analytic observations relating to learner-centred and enquiry-based teaching in terms of concepts or issues common in the transcripts of the three Geography teachers’ responses.

The concepts emerging from the immersion supplemented the second phase of thematic analysis which involved the development of codes (or coding). Coding is a common aspect of various approaches employed in qualitative analysis (Braun & Clarke, 2013). In the case of this study, to facilitate a clear comparison between the concepts that were emerging, the transcripts were re-read in the light of the codes generated from the main research questions employed in the interviews and during classroom observations. This re-reading revealed important features of the collected data which were of relevance to the research questions that guided the analysis.

Braun and Clarke (2013:121) argue that: “[c]oding is not simply a method of data reduction; it is also an analytic process, so codes capture both a semantic and conceptual reading of the data”. As shown in Chapters 4 and 5, I coded every data item and ended the coding phase by collating all the data codes and relevant extracts (Braun & Clarke, 2013:121). This collating of codes and data extracts brought me into the third stage of searching for themes embodied in the codes and extracts. A theme is defined as a coherent and meaningful pattern in the data relevant to the research questions (Braun & Clarke, 2013). In this study, the themes constructed from the codes and the extracts were employed for bringing to attention main themes, namely the profiles of the schools and the teachers; teachers’ understanding of the use of LCE; teachers’ implementation of learner-centred and enquiry-based teaching; analysis of data collected through reviewed documents.

The fourth stage involved reviewing the themes with the aim of reflecting on “whether the themes [told] a convincing and compelling story about the data, and begin[ning] to define the

nature of each individual theme, and the relationship between the themes” (Braun & Clarke, 2013:121). This fourth stage revealed that the four themes mentioned in the previous paragraph above were central to the study. The four themes were reviewed together with themes that were developed from the interviews in phase 1 and classroom observations in phase 2 of the research.

The processes in the fourth stage led into the fifth one dealing with defining and naming of the following themes: teachers’ understanding of learner-centred and enquiry-based teaching; the role of the syllabus in supporting Geography teachers; learner involvement and teaching; and challenges and problems of implementing LCE and EBL. Chapter 5 thus presents a detailed analysis of each key theme, demonstrating the essence of each in an effort to explain how the participating Geography teachers understand and implement learner centred and enquiry-based teaching.

The sixth stage of the thematic analysis as adapted in this study is an extension of the fifth one. I illustrate the analysis under each theme with the use of rich and compelling data extracts from the interview transcripts and classroom observations presented in Chapter 4. These are the extracts which were taken or coded from the transcripts of the data following from the research questions (in Chapter 1). The data extracts (in Chapter 4) and the discussion (in Chapter 5) are woven into a coherent context with cross-referencing with key issues from the review of existing scholarship (in Chapter 2).

The usefulness of the data that I have collected depends also on other factors that deal with issues of validity and reliability

3.6 Validity and Reliability

In qualitative research validity and reliability refer to the research being credible and trustworthy. This implies that the procedures of the research can be replicated in similar research. The procedures may involve the use of multiple methods of data collection such as observation, interviews and document analyses as shown in this study.

3.6.1 Validity

Fraenkel and Wallen (2008:147) suggest that validity in research refers to the appropriateness, meaningfulness, correctness, and usefulness of the inferences a researcher makes. Researchers would at all costs like the information they gather through the use of an

instrument to serve their purpose. In this study I needed an instrument to record the data and to ensure that the obtained data would enable me to draw correct conclusions about the Geography teachers' understanding of and experiences relating to learner-centred and enquiry-based teaching. The drawing of substantiated conclusions based on the data obtained from a research study is what validity is about. I adopted the following three primary strategies for validity, according to Creswell (2014:201-202):

(a) Member checking

To determine the accuracy of the findings, the researcher took the specific descriptions and themes back to the participants for verification and justification. This was done during phase 2 of the field work with the participants. I took back what Creswell (2014:202) calls parts of the semi-polished product, such as the major findings and themes derived from phase 1 of the interviews. In doing this, participants were given the opportunity to confirm or insert omitted information.

(b) Rich, thick description

Dawidowicz (2011:7) argues that case studies yield thick, rich descriptions of the phenomenon under study, while at the same time highlighting the many complexities of a situation and the factors that contribute to those complexities. Using a wide variety of data sources, among which in this study are observations, interviews and document reviews, can enable the researcher to derive a comprehensive view of deep factors involved in the phenomenon that is studied. In this study, data were collected through interviews, classroom observations and the review of documents such as the syllabus, schemes of work, lesson plans and learners' written work to provide a rich and insightful analysis of learner-centred and enquiry-based teaching in Geography.

Creswell (2014:202) also argues that validity can be attained when thick description of findings is capable of taking readers to the study setting and provide the discussion with aspects of shared experiences. He explains that the results of the study become more realistic and richer when qualitative researchers offer detailed descriptions of the setting, for example, or provide various perspectives about a theme. In this study, as shown in Chapter 4, extracts from the interviews and classroom observations involving the Geography teachers are presented. These extracts are deployed in the analysis of the results of the study in Chapter 5 to give a thick description of the study's findings and render results valid.

(c) **Triangulation**

Triangulation simply refers to the process of using or comparing multiple data sources in search of common themes on a topic with the view to support the validity of findings from a study (Leedy & Ormrod, 2013:102). In this study, as suggested by Freeman (1998:97), three forms of triangulation were used. The first one was data triangulation. The study drew its data from interviews, classroom observations, a document review, and secondary sources such as books and journal articles. Methodological triangulation was the second form. As noted above, data were collected through interviews with three Geography teachers, classroom observations and document reviews. The third form was triangulation in terms of location. Here, interviews and classroom observations were carried out at the three sampled schools.

The data reported in this study was mostly obtained from the interviews and observations. However, data from learners' written work, schemes of work, lesson plans supplied by the teachers and policy documents were used to check initial findings to fill the gaps and to informally triangulate the findings.

3.6.2 Reliability

Qualitative reliability functions as an indicator that the researcher's approach is consistent with the work of different researchers and different projects (Creswell, 2014:201). In this regard, reliability refers to the extent to which research findings can be replicated. However, in qualitative research, the key issue is not whether findings can be repeated, but rather whether the results are consistent with the data collected. In this study, the methodology is been presented in such a way that using the same procedures should facilitate its replication. I am well aware of the fact that some processes may occur in one classroom at a particular school and at a particular time; that does not suggest that similar occurrences should be expected elsewhere or even in the same classroom at another time. In addition, Cohen *et al.* (2011:203) concur that reliability does not entail that researchers should strive for uniformity; two researchers studying a single setting may drive different findings although both sets of findings might be reliable.

3.6.3 Ethical considerations

Fraenkel and Wallen (2008:433) state that it is of paramount importance for the identities of research participants in a qualitative study to be protected. This means that measures should be put in place to guard against research participants being harmed or embarrassed as a result

of their participation in a study. In this case, respect for the rights of research participants requires maintaining confidentiality in the use of data and their sources and that participants must be informed if this is not possible and offered the opportunity to withdraw from the study.

To ensure that the rights of participants in this study were respected, I used an informed consent form for participants to sign before they engaged in the research. All the participants took part in the research on a voluntary basis through informed consent. The participants were informed of the right to confidentiality, which meant using codes instead of participants' names for identifying data, and that they had the right to withdraw from the study at any time. The consent form provided details about the study and the participants went through the form together with the researcher before commencement of interviews and classroom observations.

The use of the consent form followed the standard procedure that researchers need to observe at Stellenbosch University to protect their subjects and to function as responsible researchers. According to Creswell (2014:96), the use of the consent form shows that the rights of participants are protected during data collection processes. It is also required that permission is obtained from individuals in authority at research sites to gain access to study participants for data collection (Creswell, 2014:96). I wrote a letter to the regional director of education and principals of the sampled schools to explain the nature of the study, its extent in terms of time frame, its potential impact on those involved, and its expected outcomes. Access to the study participants and sites was granted.

3.7 Summary

In this chapter the procedures, decisions and rationale for the use of the interpretive, qualitative case study design in the collection, analyses and interpretation of the data from the three sampled schools in the research component of this study were discussed. Developing the research methodology was an essential part of the study. Here I attempted to give details of the steps and procedures that were used. The section on data analysis explained the processes of data analysis and interpretation that were employed and the ways in which the analysis weaves the discussion in this study into a narrative on learner-centred, enquiry-based teaching in Geography at three schools in Namibia. As indicated in the outlining of chapters in Chapter 1, Chapter 4 presents the data from the semi-structured interviews and classroom observations that have been analysed in the manner explained in this Chapter.

CHAPTER 4: PRESENTATION OF FIELDWORK FINDINGS

4.1 Introduction

As outlined in the previous chapter on the research methodology I have used, this study aims to explore the nature of current practice in the teaching of Geography in selected schools. The study in particular investigated the experiences of Geography teachers in using learner-centred education, with specific reference to enquiry-based teaching and learning approaches. With this central aim, the fieldwork research component of this study was set out to offer substantial evidence to answer the research questions presented in Chapter 1.

Phase 1 of my visits to schools took place in the period 24 March to 11 April 2014. This was to get to know teachers, organise research with school principals and participants and then to conduct the semi-structured interviews with participating teachers. This allowed time to work through data and identify possible gaps which would be addressed in Phase 2, the second round of visits that took place from 9 June to 11 July 2014. During this visit to the research sites I concentrated on classroom observations, document analysis and obtaining ‘missing’ information from the participating teachers.

4.2 The profiles of the schools and teachers

The fieldwork involved conducting semi-structured interviews with one Geography teacher and observing his/her classroom teaching at each of the three sampled schools in the Kavango region of Namibia. These schools were designated School A, School B and School C for reasons of confidentiality. The Kavango region has the second largest population in Namibia, with more schools compared to other regions. This region has interesting cases of high-, medium- and low-performing schools in terms of the national examinations (Directorate of Education, 2013). Being cognizant of these levels of educational performance, I purposefully sampled three schools that are representative of these groupings in the region.

School A, a low-performing school, is situated in one of the suburban areas of Rundu town and is the only Senior Secondary school in the area. The school was founded in 2006 and currently has 693 enrolled learners and 20 teachers. According to the Head of Department at this school, 70% of the learners come from poor family backgrounds and 30% from middle-class families. She added that classrooms are overcrowded, housing 62 instead of 32 learners,

because only the first phase of the school infrastructure has been completed and the second phase is still pending. The school has a computer laboratory (without Internet) for the use of both teachers and learners.

School B is a medium-performing school and is situated 7 km from Rundu town. This school was founded in 1938 and currently has 1758 learners enrolled, with only 40 teachers. The school caters for the low-income population living on the periphery of Rundu town. The school has a large number of learners in each classroom, ranging from 54 to 62. Learners pay annual school fees, but due to the large number of orphans and the poverty-stricken conditions in the community, many learners is exempted from paying school fees. The school does not have a computer laboratory and there are not enough textbooks, desks and chairs to cater for all the learners. This school has broken windows and most of the infrastructure is not in good condition.

School C was sampled as a high-performing school; the pass rate for Grade 10 has been 100% for the past five years. It is a private school situated 30 km east from Rundu, the centre of socio-economic activities in the Kavango region. The school has a hostel and only enrolls learners with the best grades. Most learners come from middle-class families. In contrast to the class sizes mentioned above, this school has an average of 32 learners in each class. The school has its own library and computer laboratory with Internet access for the learners. There is a big difference in terms of infrastructure between this school and the schools described above. The windows, floors, chairs and desks are in good condition. At the time of the research each learner had a textbook for his or her use.

One teacher was purposively sampled from each of these schools for the semi-structured interviews and classroom observations. The teachers were all selected on the basis of their present status as Geography teachers and experience in teaching Geography. The teachers' professional experiences varied from 8 to 25 years of teaching Geography. Two of the teachers are university graduates and with specialisation in Geography teaching, while the third one had pursued a teaching diploma at a College of Education. Each of these teachers also teaches other grades apart from Grade 10. The number of learners in their classrooms ranges from 24 to 62. They all have other responsibilities at their schools apart from teaching. Table 4.1 below summarises the key characteristics and responsibilities of the teacher participants.

Table 4.1: Summary of data about the participating teachers and their schools

School	Teacher	Grades in which they teach	Qualification(s)	Teaching Experience	Number of learners in class	Subjects that teacher teaches	Other school responsibilities
School A	Teacher A (TA)	8, 9, 10, 11 and 12	Bachelor of Education (BEd.)	8 years	52-58 in each Grade 10 class	Geography	Disciplinary Committee, Examination Committee
School B	Teacher B (TB)	9 and 10	Basic Education Teachers Diploma (BETD)	14 years	54-62 in each Grade 10 class	Geography	Disciplinary Committee, Subject Head of Social Sciences
School C	Teacher C (TC)	9, 10, 11 and 12	Bachelor of Education (BEd.) in Geography	25 years	24 learners in Grade 10	Geography and Life Science	Curriculum Development Committee

The collected data involving the three teachers are presented in three main sections, below. In the first section I present the results of the semi-structured interviews with the three teachers from the three case study schools. The second section focuses on the findings from written classroom observation data and in the final section, findings from the document analysis are presented.

As discussed in the literature review in Chapter 2, the Namibian Junior Secondary school Geography syllabus requires teachers to integrate learner-centred education and enquiry-based teaching methods. One of the key aims of the study was to investigate what teachers understand about learner-centred teaching and how they operationalise the suggested aims and objectives in their teaching. The presentation of my interview findings has been structured around themes developed from the research question concerning the teacher's understanding of LCE and EBL, as elaborated below.

4.3 Teachers' understanding of the use of learner-centred education

As indicated in chapter 1, learner-centred education is understood differently by teachers and this has implications on how they make use of elements of enquiry-based activities as part of learner-centred teaching.

4.3.1 Teachers familiarity with the use of learner-centred, enquiry-based teaching

In the Namibian context the National Curriculum for Basic Education requires teachers to employ learner-centred teaching methods in their teaching. On this basis, the first question (see Appendix C) put to the teachers under this theme asked whether they were employing learner-centred teaching or not. TA indicated that he “only sometimes” employed learner-centred teaching. When asked why he “only sometimes” used this approach, he explained:

Because of the classroom environment which does not allow us to apply learner-centred education most of the time and the workload installed on the teacher which is way too much.

When asked to explain what he meant by classroom environment hindering the implementation of learner-centred teaching, he responded:

Over-crowdedness of learners in classes and workload of the teacher. Because it makes it very much difficult to monitor the implementation of learner-centred education. That’s why I use it sometimes.

In the case of TB, he said he employed learner-centred teaching. He explained the LCE methods he uses as follows:

Ok, I mostly use worksheet, I design worksheets (umm) the other method I use normally is the (umm) what is it? Technology.

It is important to note that TB was not comfortable when he answered this question and I could not probe deeper on the issue. I assume it may be the case because it was the first question.

TC’s response on the use of LCE teaching was that he employed the approach. When asked to clarify how he employed it, he gave examples of activities he gives his learners:

At times (umm) I might give a task by the way of puzzles, it can be a crossword thing like in umm where I want them to master definitions and geographical concepts here and there. Group methods normally they are small groups and largely in pairs where they give feedback as a whole class discussion. They also role model, we also do that although not very extensive role model especially when we are doing weather studies as an example.

The second question asked teachers to describe some of the learner-centred methods they were using. TB, who said that he used these methods, could not give a detailed description of a learner-centred method. He said he used worksheets, but could not explain the purpose of the worksheet, how the worksheet was designed, how the worksheet was used in the teaching process and how learners used it. However, TA and TC mentioned some activities that they have done in the classroom to actively involve the learners. TA added that his activities included:

Peer-tutoring, learner presentation, group work and then enquiry...skills (yeah).

On his part, TC explained further:

Now, at times I also ask them, I pick some learners to go to the front and (umm) present things to their colleagues, maybe called what? pupil interaction ... isn't it, then I also role-model, we also do that although not very extensive role model, we also do like[wise] when we are doing weather studies, as an example.

These responses suggest that the teachers view learner-centred methods as teaching methods aimed at involving learners actively in the teaching process. However, in the case of TB, it appears that he may not be conversant with the use of worksheets as a method for learner-centred teaching.

The third question attempted to explore the teachers' understanding of enquiry-based approaches as part of learner-centred education. Even though the teachers did not give a precise definition of enquiry-based teaching and learning, TB and TC expressed some understanding of what enquiry is. These teachers expressed ideas such as identifying geographical topics, collecting data, analysing data and doing field excursions. TC demonstrated his understanding of enquiry-based teaching as follows:

I don't know, but in Geography I thought it is part of what I was talking about where I said we do research methods and where we are expected to do methods in the field, for instance, by way of field excursions where we need to go out, you want to investigate deforestation, investigate farming, you want to do some measurements of slopes, erosion and so on. These ones we do theoretically.

TC's response showed that his understanding of enquiry-based approach seemed to be that it involves fieldwork. He mentioned different aspects of the Geography syllabus that can be taught "outside" by using fieldwork, but he does not mention the logical set of questions that drives the enquiry-learning process. Using this set of key geographical questions (see Fig. 2.2), can also facilitate involvement of learners during classroom activities, and not just the use of fieldwork activities.

TA demonstrated a more nuanced understanding of what enquiry-based teaching is by explaining:

That is, whereby the learners identify a certain geographical question, work in a group to collect the data, then (umm) analysing the data, and come and present the data.

Here TA displays an understanding of critical aspects of enquiry-based teaching and learning

which include learners coming up with a question, deciding what needs to be done, gathering data, sorting out the data, constructing and then communicating new knowledge. His response implies that the learners take responsibility certain activities and also for their own learning in and out of the classroom (fieldwork).

TA was asked if these enquiry skills are prescribed in the Geography syllabus.

Definitely, it's part of (umm) geographical, it's a must, geographical skills that the learner should be able to master, yes ... in the syllabus. So it is actually ... it covers almost every part of the themes of the syllabus: the physical world, economic activity, the use of natural resources as well as (umm) population and settlement studies and HIV/Aids.

TB expressed his idea of enquiry-based teaching as follows:

Ya, the way I understand is just the enquiry like.... they do first consultation with the learners to find from learners what they know ... ya ... and from there you continue from what they know to unknown otherwise in your way (umm) I will not explain it the way you maybe want to (umm) enquiry, ... enquiry is to start with the learner first.

In this regard TB views enquiry-based teaching as being rooted in previous knowledge that learners have on a topic to be used as a starting point for the teaching of new knowledge. The responses of TA, TB and TC suggest that they all understand enquiry-based teaching and learning differently: more as fieldwork, as involving enquiry skills, and as learning from existing knowledge.

When teachers were asked whether they were using out-of-classroom activities, all affirmed that they do these activities "only sometimes" when time allows. They all explained that it is difficult to do these "outside" activities due to the large number of learners in classes and lack of resources. In answering this question TC shared his experience in this way:

That is very ideal theoretically, but you find in a school ... the school does not even have money to hire a bus to go and see a place that is only 20 km from here where deforestation is taking place and (umm) school programmes and curriculum issues will be so congested that I cannot take a bunch of 33 learners from here and spend the whole day in this village investigating my agriculture at the expense of other guys...what commitment?...we might make that but you might find that at times it becomes very difficult. There are institutional issues, and management which might not allow for those things. So theoretically, if you ask me, I can tell you every method, say ... and pros and cons, but otherwise in the field it is not possible, you have to look at those things.

In his answer TC indicated that out-of-classroom activities were done theoretically, in which case he simulated the field activities in the classroom.

TA said he employed out-of-classroom activities only when time allowed “because the workload of the teacher is also another factor”. TB pointed out that, in his case, the out-of-classroom activities he used included involving learners in doing directions, doing line transit and when dealing with issues of pollution. In terms of these out-of-classroom activities, it was seen that, while there are financial, institutional and teachers’ workload challenges, these out-of-classroom activities were simulated in classrooms or they actually took place when time allowed.

4.3.2 Teaching in Geography and the use of the syllabus

Teachers were asked whether they experienced the national Geography syllabus as an effective guide in their teaching or not, and to substantiate their stance. All the teachers responded that the syllabus is an effective guide and that they design their own schemes of work from the syllabus to make it easier to use. TC narrated his experience with using the syllabus as follows:

Yes, that is our major tool here. The syllabus is there and we try to break it down into a scheme of work, but it is largely like I said, it’s largely a guide. I intend to go about the syllabus, but the syllabus is the document we value a lot because at the end of the day we know the examination is based on the what....? ...on the syllabus.

For TC the syllabus is not only an important guide, but he explained the association that he makes between the stated curriculum and the examined curriculum. Despite the usefulness of the syllabus, as highlighted above, challenges are also experienced in covering the syllabus content for the grade in the limited time allocated.

TB also indicated that he does not have enough time to cover his work:

Yes, the syllabus is effective. The only thing is the time that is allocated, the periods that are allocated for Geography (umm) is not ... is not enough at all. Especially when you do map work it becomes very difficult. You only see them (the learners) three times a week, because the periods that are subscribed there is only three. For example, it becomes very tough, for map work you need (umm) at least double period, but is not possible to get those double periods.

TB’s answer in a sense explained why the teachers have the perception that there is not enough time to involve learners actively. This may suggest that his teaching is still teacher-centred, despite the curriculum requiring teachers to employ learner-centred approaches.

TA regards the syllabus as an important guide for knowing what learners must achieve, but

his experiences as a national marker widened his understanding of what is expected in the Geography examinations:

So, it is quite an effective guide, (smiling) but now as an experienced teacher ... we have been teaching for so many years, that I came to know most of the objectives that are ... that are prescribed in the syllabus (laughing) as well as, what learners are expected to know because I am also a national marker (ha-ha) therefore. Ya, it is a guide, but then of course, I also go beyond the syllabus in order for me to make sure that my learners are equipped with the geographical knowledge from all the corners.

TA, as in the case of TC, appears to be aware of the opportunity that the syllabus provides for learner-centred teaching, but instead of involving learners actively through enquiry skills and activities for learners “to go beyond” what is in the syllabus, he does all the teaching himself instead of devolving it to the learners.

The other question under this theme was to find out which strategies teachers think are useful in teaching Geography. All three teachers responded that they think the best method in teaching Geography is to involve the learners in the learning process. TA made the following comment:

Useful strategy? It is actually, I will say (umm), let me say, I mean the involvement of learners in the teaching and learning, that is the useful strategy. As a teacher you present and let learners learn about the topic and give them time also to come and present what they understand. I think that one is quite useful for me.

For TA a useful strategy in Geography teaching is to actively involve learners in the construction of knowledge by allowing them to present what they understand about a particular topic. Apart from using different strategies to involve learners, TB also used peer tutoring first before he would lead the teaching process with the whole class:

No, we do different teaching strategies, ya, like when I do map work I use a different strategy there and when I do a topic that they know I normally use the worksheet. They have to do the work themselves first, after failing then we go through together but there are certain topics that are very difficult.

In line with TA and TB, TC also acknowledged the significance of putting learners at the centre of their learning. For him, involvement of learners started in the planning of a lesson. TC argued that creativity of the teacher is central to teaching rather than the training that teachers receive in teaching theories such as those on learner-centred approaches:

So, I think somewhere somehow I thought the theory behind learner-centred approach is to make sure the child is the one who is involved and maybe by being involved they tend to

understand more. Yes, but I don't know what is going wrong yes, which means there are many variables we need to consider when we look at the results and the outcomes, so is high sound of nothing when we talk about learner-centred approach what, what...(umm) when we talk of these things in workshops (umm) and you talk of Bloom's Taxonomy things what...what Piaget's theories, fine, but when we implement it do we really see fruits or are the teachers really understanding what it means.

The responses of the three teachers suggest that they all believe in the essence of active-learner involvement in learning but each one of them had his own preferences as to how to do that. What also emerged, however, was that it is relatively easy for teachers to understand the theoretical grounding of learner-centred teaching in teacher education and in in-service workshops, but what lacks is how to employ those theories in the actual teaching reality.

All the teachers agreed that they used learners' existing knowledge in their lessons. TA mentioned that he allowed learners to express themselves by contributing the previous knowledge they obtained from the outside world:

Yes, I always allow learners to be independent, I allow them to express themselves and be able to bring in the knowledge that they have actually obtained from the outside world. They bring the knowledge into the classroom where we can be able to say that they critically analyse and draw constructive conclusion from there.

TB's view was:

Oh starting from what they know? Ya, ya that is the introduction of the topic, normally we start from what they know, asking questions and from there you continue to unknown (umm). (TB)

TC explained that the syllabus comprises work from Grades 8-10 on similar topics building onto each other as the grade level increases. He explained that the links between the topics make it imperative to start with what learners already know from previous grades and then to introduce them to the unknown. The following response from TC illustrates this:

Yes, very much, especially when we teach higher classes like in my case. I don't teach Grade 8, but I am familiar with the content of Grade 8. So when I teach our syllabus you find that Grade 8 goes up to this point ... then in Grade 9, it is like the same topic you find weather and climate, first part is revision of Grade 8 work, then there will be a small part at the end of Grade 9 which is new. Then when you go to Grade 10, you find the revision of Grades 8 and 9 and then again a small part of new work for Grade 10. So therefore, it is imperative that our learners should have what?...the knowledge of the previous grade so that you build from there and [the knowledge] must be continually in the learning and be constantly revisited.

It was clear from the responses of all three teachers that use of previous knowledge as a step for the construction of new knowledge was central to teaching that aims to put learners at the centre. TC in particular drew attention to the design of the syllabus which creates opportunities for the use of previous knowledge in further learning.

Another question was directed at finding out whether the teachers included activities such as project learning, problem-based learning and group/collaborative learning in Geography lessons as continuous assessment activities. The three participating teachers said that they incorporated these teaching methods in their teaching. TA pointed out that: “Yes, exactly as one of the teaching methodology I gave you, about group work activities and learner presentations, that is where we normally incorporate them for assessment purposes”. TB explained that he gave his learners projects for continuous assessment. TC, for his part, said: “They are there, but they are for limited scope to the extent that at times it is not commensurate [with] the amount of time that is [to be] spent on learner-centred teaching”. Commenting on the activities that he employed to see whether learners had a high level of control over content in these forms of learning, TC specified that:

(Hah) we normally give them test (umm), I don't believe a lot in this homework thing because the homework thing is the problem ... is that they will copy and it does not give good assessment of what they have learnt especially where I am not monitoring or where things are not done under examination conditions. I prefer giving activities under examination conditions so that I can be in a position to evaluate each individual and when given a task you find that some are quiet, only the hardworking ones will do the work and you find that the whole group get[s] good marks while only one or two people did the work and you say (umm) ... my children are very good, while not everyone is taking part. I prefer giving activities where I monitor.

It can be noted that TA and TB use project-based and collaborative/group learning as part of their assessment practice. In contrast, TC gives what he considers to be learner involvement activities under examination conditions, for example, tests to assess learners individually and not as a group.

4.3.3 Implications of resources and active involvement of learners

The teachers were asked about the resources they used when they attempted to involve learners actively in their lessons. TA and TB said that they mostly relied on textbooks although they also made use of worksheets. TA explained:

Geography teaching resources ... I use my Geography textbooks a lot, my posters over here are some of the resources I use, maps very much helpful, [with] the projector then I use my

prepared presentation slides, very useful, [and] the chalkboard not replaceable (laughing) and hand-outs of worksheets that are self-prepared as well as past examination question papers.

TB, on the other hand, felt that the worksheet is the one he used to involve everyone because every learner would be very busy.

However, TA and TB observed further that, due to the large number of learners, the textbooks were not enough and learners had to share them. TC had a slightly different experience:

Textbooks and of course teachers['] resources from experience are useful. We have textbooks, our learners each one has got a copy, there can be several copies but at times one copy will be enough for everyone so what we do is we just mix the copies and they don't have problems circulating the different textbooks.

When asked whether they are using Information Technology (IT) services as a teaching resource at their schools, TA and TB responded that they did not have access to Internet services. While TC acknowledged the value of IT, he also experienced limited time and access to the Internet to be problem areas. The responses from the three teachers' show that they were making an effort to use different resources to promote learner-centred teaching, although there were still challenges around access to textbooks as well as using the Internet for involving learners in enquiry activities.

Another issue that was raised was that of the professional development of teachers, referring to the training that teachers receive to inform their practice of learner-centred and enquiry-based teaching so as to increase their pedagogical knowledge and confidence in Geography. Teachers were asked if they had attended workshops regarding learner-centred approaches such as enquiry-based teaching. TA and TC claimed that they attended workshops and that it was about both learner-centred and enquiry-based teaching. This is what TC had to say:

Yes, I have attended about two years ago now, and that was (umm) at NIED [Namibian Institute of Educational Development] Okahandja. We were actually trained in these aspects specifically the enquiry skills as well as the presentation of Geography, the best way to present it and as well as (umm) problem areas that the learners are facing.

In his case TA responded:

Yes, yes, I almost attend everyone unless we don't get communication but (hah) normally I get communication from the regional office and I have been attending them most.

TB, however, had never attended any workshop. When I probed as to whether he consulted with his subject advisor, he responded that:

Last time ... you might see her once but the thing is that she told us that she doesn't know anything about Geography, that is the thing with our subject advisor (umm) even if she comes she has nothing to advise you, she only knows History. But I understand they appointed a new (umm), subject advisor for Geography now, who is going to deal with Geography, but up to now I have never seen that person, (umm) not yet, maybe he is still planning to do it.

When asked what other alternatives he had in accessing support for teaching, he went on to elaborate that:

Nothing, struggling myself, if there are difficulties we normally approach our friends, colleagues from other schools to get information then we just continue. There is no workshop arranged for teachers teaching Geography.

It can be noted that TA and TC had been attending workshops on learner-centred, enquiry-based teaching. However, in the previous responses noted above, they did not highlight the ways in which their teaching benefitted from the workshops and, in some cases, they even indicated that time and overcrowded classrooms are major constraints to their implementation of learner-centred, enquiry-based teaching. From TB's responses on the use of learner-centred, enquiry-based teaching, it can be observed that he has not been receiving support in terms of in-service teacher training sessions. Although consultations with the subject advisor for Geography might have been an alternative to attending in-service training sessions on the part of TB, he experienced challenges regarding those consultations and had to find support from his colleagues.

4.3.4 Factors impacting the use of learner-centred and enquiry-based approaches

When asked whether the processes of learning in their Geography classes were shaped by the needs, capacities, and interests of the learners, TB and TA expressed corroborating views in contrast to TC's perspectives, as follows:

TB explained that:

In fact normally when you teach (umm) you always try to attract the interest of the learners. They have different interests which is [*sic*]different from learner to learner. We are trying to involve them actively, but the thing is that some of them have their own problems emanating where they are coming from, but we also try to solve that problem, we refer them to the counsellors to attend to their problems.

Noteworthy here is that TB considered the interests of the learners. However, he felt that learner-centred teaching may still be affected by problems that could not be dealt with by the

teaching process, such as those originating from their homes, which might require counselling.

On his part, TA corroborated TB's argument by highlighting that:

Some [problems] might be out of my control, but where possible I always take them into consideration. Learners with special needs? Definitely, and then learners with behavioural problems, we also attend to them in terms of... we provide necessary counselling from the teacher's personal perspectives.

But unlike TB, TA went further to emphasise that it was the flexibility or will of the teacher that played a role in accommodating the needs, interests and capacities of the learners, rather than teachers acting according to a deliberate school policy that made an impact on learning.

TC, however, had reservations about how far learner needs could be accommodated by the teacher:

No, it is not as free as you are saying, because at the end of the day these learners are going to write a public examination where learning is measured by national standards as reflected in the examination results ...so it is not really like we are saying what [is it] they are interested in learning, but we are saying what issues should be known, or by the end of learning they should achieve these competencies.

In contrast to TA and TB, TC was of the view that, as the learners will have to sit for an examination, teaching had to be driven by what they needed to learn in preparation for the examination. He felt that learners could be motivated to be actively involved through the use of content that would obviously be of interest to them. He seemed to suggest that in teaching such content, learners would draw from what they already know and proceed to construct new knowledge on HIV/AIDS or birth control, for example.

Another question had to do with challenges teachers are facing when involving learners actively in teaching Geography. All the teachers mentioned different challenges they were encountering when using learner-centred approaches. TA and TB complained about overcrowded classrooms that resulted in a lack of space and that the learners were sharing chairs and desks. This, they said, made collaborative or group learning difficult and they resorted to the traditional way of teaching, which is lecturing. TB explained:

The challenges are a lot (umm) because the resources are not enough, let's take the textbook is not enough, the classes are overloaded or overcrowded and also a lack of parent involvement here. Then if you want to address a specific problem with, the parents (umm) ... they might come, but they don't know anything and it becomes very difficult (umm) ... those are the few that will come.

Like TB, TA emphasised overcrowded classrooms and the workload of the teachers as being hindrances to learner involvement in teaching.

In corroboration with TA and TB, TC further indicated that the challenge of overcrowded classrooms becomes a complex one when the teacher's workload prevents planning learner-centred, enquiry-based teaching activities: This is what he explained:

I think our major problem is the number of learners and also the teachers' work load which might not give enough time for the teacher to plan these projects or activities you know they need a lot of planning. It is not like just wake up and think of an activity, you have to think about it, so at times it becomes congested in terms of the work load and other things to such an extent that you cannot prepare a lot of them, but largely it is the numbers involved.

All three teachers indicated that the large numbers of learners in their classrooms make it less easy for them to implement learner-centred and enquiry-based activities in their teaching. It is difficult to put learners in collaborative/group learning activities and to monitor these activities. The workload of the teachers is another restraining factor as teachers do not find enough time to plan the activities for active learner involvement in their classrooms.

Apart from the challenges related to the workload of teachers, over-crowdedness and the learning abilities of learners, the use of learner-centred, enquiry-based activities is also affected by the need to prepare learners to pass examinations. TC revealed that he concentrates on completing the basic competencies in the syllabus because he says that it is important and that is what the learners will be assessed on in their examination. He is of the opinion that doing all these (learner-centred, enquiry-based) activities is a waste of time and that content to be transmitted is more important than learners' construction of knowledge through their active involvement in learning. TC worded his argument as follows:

So, those things [covering the syllabus] also do control the ways you can delve more into these learner-centred approaches, because they are very time consuming ... that is the truth about it. It is quite interesting, very involving with the learners, but the problem is that at times if we implement them to the fullest in schools, I tell you the syllabus will not be covered. The worst case is to have the learners go into examination without completing the syllabus, that will be a national disaster, so I do use them, but not really...if I want to test but (umm) as part of the what? the assessment? We emphasise more on that [examination] so that our children can familiarise themselves with typical examination questions rather than these interactive tasks and etc. which will not come in the final examination, it becomes a problem.

The foregoing are the findings from the data collected during Phase 1 of my fieldwork. As presented below, these findings are supplemented by findings from Phase 2 of the fieldwork

involving classroom observations and member-checking with the teachers I interviewed in the first phase for purposes of validity.

4.4 Teachers' implementation of learner-centred and enquiry-based teaching

Although the interviews were chosen as the primary source of data for the study, classroom observations provided further insights and established a means for data triangulation. As mentioned in Chapter 3, I observed a total of nine lessons – three lessons taught by each of the three teachers I interviewed in this phase of the research. The classroom observations were meant to determine whether the teaching involved key aspects of learner-centred and enquiry-based teaching and learning in Grade 10 Geography classrooms. The findings from the observations are discussed below in relation to the research questions noted in Chapter 1.

In addition to the observations, classroom sizes and layout, facilities and resources for teaching and learning were also considered in terms of how these aspects contribute to learner-centred, enquiry-based teaching. As indicated in Chapter 3, the teachers I observed allowed me to record the teaching sessions. Notes were also taken using the observation schedule. As elaborated in the sections below, a key finding that emerged from the observations is that teachers regarded asking questions and getting answers from learners as the main means of involving learners actively in teaching and learning.

4.4.1 Overview of the classrooms and its organisation

My first week of observation was at School A in Teacher A's class. I planned to observe five lessons in this week, but the timetable involved a seven-day cycle and there were only three Geography periods in that week. I observed three lessons in the Grade 10B class of 52 learners. The classroom had a traditional seating arrangement with all desks and chairs arranged in rows facing the chalkboard. The classroom was overcrowded because it was too small for the 52 learners and some of them had to share a single desk or chair. The teacher's table was in front of the class close to the chalkboard. I sat in the front corner of the class so that I had a view of the whole classroom while my voice recorder was put on the teacher's table for clear audio recordings of what was being said by both the teacher and the learners. This classroom layout did not show characteristics of a learner-centred classroom because of the seating arrangements and classroom environment. The learners were not seated in groups or pairs for collaborative learning to take place. There were no teaching aids for Geography

in the classroom, for example a globe, atlases, maps, and posters on the classroom walls.

In the third week I observed a Grade-10 A class at School B in TB's classroom. This classroom was a dedicated Geography subject room; posters and maps of issues in Geography were displayed on the walls and there was a globe. The class was also very small - like TA's classroom and was crowded with 54 learners who had to share the chairs and desks. The desks were arranged in groups but one could not identify the groups as there were no spaces between them. In this classroom the teacher could not move around between the desks to interact with the learners. The teacher only called on the learners in the front seats, those that were closer to his table, to answer questions. He stood in front next to his table during presentation of the lesson. TB also had a cupboard in his classroom (a Geography classroom to which learners come for lessons) where he kept his teaching materials, unlike the other two teachers whom I observed who rotate classrooms to deliver their lessons.

My second week of observations was spent at School C in TC's classroom. The class comprised a small group of learners compared to the other two schools. Teachers at this school rotated between periods and class groups sat in their register classes. The class consisted of 24 learners. The desk and chairs were arranged in pairs, which gave the teacher enough space to move around the classroom. There were no Geography teaching and learning materials on display in the class. I assumed this was so because different teachers taught different subjects in the classroom and it was not a classroom specifically dedicated to Geography. School C also followed a seven-day timetable cycle and I could only observe three lessons during the week.

4.4.2 Structuring of learning and links with other knowledge

The first lesson I observed at school A was a 40-minute lesson, which was the case with all the lessons. TA started the lesson by writing the topic (Ecology) on the chalkboard and asked questions related to the previous lesson. The link with previous knowledge can be noted in the following excerpt and observations of the lesson's introduction:

Teacher (T): The first thing that we learned is to identify factors that are contributing to the deterioration of the Namibian environment. And those factors are divided in two. What are these two factors?

Learners (L) Put up their hands and teacher pointed to one learner to give an answer. She replied: I do not remember.

T: OK, don't worry. (The teacher points to another learner).

L: Natural factors and human factors.

The lesson then went on with the teacher presenting it by asking questions and learners giving answers. I provide an example of the type of questions asked in the questioning section, below. The total focus was on Geography. The only reference to other subjects that I could observe in this lesson concerned integration of environmental education with Geography.

In the second lesson, the teacher noted the different types of pollution on the chalkboard. The teacher then asked the learners to present their homework. The third lesson involved a recapitulation session concerning the previous two lessons before the lesson was presented, with the teacher asking questions and learners giving answers.

In TB's lessons the teacher had handed out question papers from a previous examination to be answered prior to the lesson in preparation for the day's lesson. He asked lower order questions related to what learners already knew as a starting point in all three lessons I observed. An example of questions asked was: Mention places where we get fish from. Learners gave different answers, such as, river, ocean, lake, etc. The teacher focused his lessons on Geography only. The teacher linked the third lesson – on population density and distribution – to the local context which was known to the learners. He made an example of Rundu, and asked: Why are there now many people living in Rundu compared to five years ago? Learners were actively giving answers. In the responses of the learners, I became aware that the learners were interested in talking about local issues.

TC was teaching the topic of Local winds for the three days I observed his class. In all the three observed lessons TC asked questions at the beginning of the lesson to recap on the previous lesson. At the beginning of each lesson he asked learners to tell what they had discussed in the previous lesson. Learners gave short answers such as: pressure systems, how winds are formed, etc. The teacher wrote short summaries about the issues that had been discussed in the previous lessons on the chalkboard. All lessons started from what learners already knew about the subject.

The focus of all the three lessons was on Geography, but the teacher used numbers to explain degrees of pressure systems to the learner. The teacher integrated Mathematics in his lessons by showing learners how to calculate pressures from different physical features such as mountains, seas and valleys. In the third lesson, the teacher also integrated a chess game by giving an explanation of 'katabatic' (meaning night, as knight in the chess game).

4.4.3 Teaching style and learner involvement

In the first lesson TA talked and wrote on the chalkboard and learners copied these short summaries. This scenario presented the teacher as a knowledgeable person and the learners as mere recipients—empty buckets (*tabula rasa*). The lesson was teacher-centred all along because the teacher was lecturing and in control of the class. The teacher posed eight questions related to the topic he was teaching. Most of these questions were simple closed-ended questions that required short answers as noted in the questioning section. In the second lesson TA was seated among the learners in class and he asked three learners to present what they had written on land pollution (homework). The learners went to the front of the class individually and presented the information verbally and wrote what they had written on the chalkboard. The teacher made verbal summaries after each presentation.

In the third lesson, TA used a PowerPoint presentation to mediate the lesson. The PowerPoint presentation was not used to teach from a learner-centred approach. The teacher read the summaries from the whiteboard and asked questions. Learners had to look at the summaries and pictures to give verbal answers. The learners were passive; they only answered questions when asked. Not all the learners were involved in the answering of the questions because the teacher only pointed to the learners who raised their hands to answer the questions.

During the three lessons in TA's classroom, I observed that the learners were mostly listening to the teacher teaching. Learners were passive during all these lessons. Only five learners were involved in asking the teacher questions and answering the teacher's questions throughout the three lessons. The majority of learners were out of their depth, perhaps daydreaming, or chatted socially among themselves. I could observe that the learners were not given chances to construct knowledge through gathering and synthesising information and integrating it with general skills of inquiry, communication, critical thinking and problem solving. Learners did not get opportunities to think critically; instead the teacher allowed them to use textbooks to find answers to questions he was asking.

In the first two lessons that I observed in TB's classroom, the learners were passively receiving information from the teacher – mainly by listening because he was lecturing. The knowledge was transmitted from the teacher to the learner. The learners were not actively involved in the teaching and learning processes apart from the few questions the teacher

asked to involve them. There were not many instances whereby learners were given an opportunity to construct knowledge in this classroom. This is demonstrated by an example of what happened during the first lesson:

T: Why do you think Namibia is rich in fish resources?

(The teacher did not give learners the opportunity to answer this question. He answered the question as follows):

T: It is because of the Benguela Current that we have a lot of fish...*(and he went on to explain other reasons why Namibia has a lot of fish).*

There was a general absence of learner-to-learner interaction in the classroom, which was teacher focused. One distinguishing feature in this class was that, unlike TC and TA, the teacher did not write notes on the board and learners did not spend time copying notes from the board. Instead TB had written notes on PowerPoint and used them while giving explanations. This perhaps allowed the teacher to manage the time more effectively as he covered a wider area of content compared to his second and third lessons.

In the third lesson, the questions the teacher was asking were more low-order questions; he gave learners an activity containing higher order questions, however, when he asked them to answer questions from the chalkboard using a map of the major population clusters in the world. Only some learners were actively involved in this activity because the teacher was not monitoring the learners seated at the back, where some were having private conversations and were not involved in the activity. The teacher told learners to do the activity individually and gave them 10 minutes to finish. The activity involved the following:

1. Use the world map to identify the area with more people and give reasons,
2. Use the world map to identify places with few people and suggest reasons.

Learners were supposed to discuss the findings as a whole class, but the bell rang when they had just started the discussion. The learners had to go for the next period and the teacher told me that he would continue the lesson the next day.

In the first and third lessons TC was the depositor of knowledge and learners were absorbing passively while answering questions here and there. In the first lesson TC lectured as he explained different types of breezes to learners and asked questions in between his lecturing, which learners took turns to answer. In the third lesson, TC made some drawings on the chalkboard. He explained how the different types of breezes are formed. to the learners by demonstrating on the chalkboard. This lesson was more teacher-centred, like the first lesson.

In the second one, however, learners were more active – they worked in pairs. They answered questions presented on a worksheet in pairs, by way of discussions. TC later called on individual learners to present their findings on the chalkboard. The learners drew diagrams and explained their findings to the whole class.

In the first and the third lessons, the learners were passively receiving information, but I think it was necessary to do that in the first lesson. The learners might not have been familiar with the pressure systems and local winds at that stage and the teacher needed to teach this to the learners. In the second lesson, the learners were actively involved in their pair work. The teacher was a facilitator in this lesson because he moved from one pair to another monitoring the learners' work and explaining where they could not understand. The learners were given an opportunity to construct their own knowledge by discussing and answering given questions (see Appendix E).

4.4.4 Learning and teaching materials used

As noted in the section on the overview of the classroom, TA did not prepare enough teaching materials for two out of the three lessons. In the first lesson, TA used the chalkboard and the textbook as teaching aids. The chalkboard was used for writing short summaries, which the learners copied. Learners had their textbooks opened in front of them and they read the answers from the textbook whenever the teacher asked a question. In the second lesson, the learners wrote the feedback from the homework on the chalkboard while they were presenting it. The third lesson was carried out in a different classroom. TA planned to use a PowerPoint presentation and he used the computer laboratory with these facilities for this lesson. Learners' involvement in this lesson was just to look at the pictures on the white board and answer questions that the teacher was posing.

TB used the chalkboard, a data projector and question papers from a past examination. The data projector was in front of the chalkboard. This was used to show pictures of commercial fish farming and the teacher also projected short summaries to explain the content. These teaching materials were not used to involve learners actively as one could expect when using a learner-centred approach. However, learners were involved in the activity of identifying different types of fish from a hand-out and in answering questions. My observations in his classes and of his teaching materials suggest that his preferred method of teaching, homework, and assessment is mostly based on providing past examination papers, and

handouts for the learners to answer. In the third lesson, TB used a world map showing population distribution and density. Most of the learners were actively involved when using the map to answer questions from the chalkboard.

TC used only a hand-out and the chalkboard in all of the lessons that I observed. The chalkboard was used to write down concepts and draw diagrams to explain the different types of winds. The learners made summary notes from the chalkboard. The learners were given hand-outs showing different types of breezes which they needed to identify and discuss in pairs. The hand-outs allowed the learners to be involved in the activity. Consequently, I think the teacher did not use enough materials for this topic. He could have sent learners to a library to investigate how local winds are formed or could have asked learners to work in groups and identify one form of wind and investigate it. Learners could have drawn or could have found pictures to explain how the winds are formed, where they are found and the area that they impact.

4.4.5 Enquiry-based activities and questioning strategies

In TA's class, in the second lesson, the learners went to the front and presented the findings from their homework. The teacher gave some guidance on how they had to do the presentation. I did not observe any other support given to the learners in TA's class. The learners were not engaged in any task where they could work independently using learning materials in the classroom. No out-of-classroom activities were used at all in the three lessons I observed, except for the homework that was given in the first lesson. The homework involved the following:

Write about land pollution:

- Causes (5)
- Effects (5)
- Solution (5)

In the three lessons I observed, TB did not give learners group or collaborative work. The activity of answering questions on the worksheets was done individually. Learners were given past examination question papers. They had to find answers from their textbooks in class and afterwards as homework. The activities were not challenging because learners merely looked for answers to questions in their textbooks. Only one of the questions in the past examination paper, showed some elements of the geographical key questions. The

question read: Which place would be most suitable for building a wind-driven power station? Give a reason for your answer.

TC provided learners with support and guidance in the classroom during the activity mentioned earlier. He always explained to clarify problems when learners did not understand. The teacher had sound knowledge of the subject and assisted learners confidently when it came to the concepts of pressure systems and local winds. However, the teacher created only one opportunity for pair work as collaborative learning in the second lesson.

The learners were not given activities involving enquiry whereby they had to answer logical or sequenced questions using different methods of learning. There were no out-of-classroom activities, not even homework. In addition, I did not observe any assessment activity in TC's class, nor did he show me on what he had planned to assess the learners regarding the topic of the three lessons. When asked how learners were going to be assessed, he said that he would give them a test.

Use of questioning

Asking questions for TA was the main teaching method used throughout his lessons. Most of the questions he asked were lower order questions; in which the learners gave short answers, mostly in incomplete sentences as shown below. TA did not encourage learners to explain and ask further questions to make the learning challenging; the emphasis was mainly on correct answers. When the answers from the learners were correct, the teacher said "Very good, yes!" and continued with his explanations. When the answers were wrong, the teacher would ask a different learner to give the correct answer. If the answer was still wrong, he gave the correct answer.

However, TA also employed sequenced geographical key questions such as:

T: Name human factors that are contributing to the deterioration of our environment.

L: Deforestation

T: What is meant by the term deforestation?

L: Cutting down of trees

T: Is that deforestation?

L: That is cutting down of trees before they grow big.

T: Why do people cut down trees?

L: For building materials, medicine, road construction, etc.

T: What effects are there when people cut off trees?

L: Soil erosion.

T: How does the vegetation actually prevent soil erosion?

L: The roots of vegetation help to keep soil together.

For his part, TB asked questions, most of which were open-ended. Learners were encouraged to explain, or they asked the teacher follow-up questions. The teacher's aim in asking the questions was to help the learners to learn, although he did not ask the learners more challenging questions. The learners were given correct answers whenever they gave wrong answers. When a correct answer was given, the teacher praised the learners in words such as "Good, well done!" etc. Following is an excerpt from TB's use of questioning:

- T: Where do we get fish from?
 L: Some fish is coming from heaven
 T: Okay do you agree class?
 L: No
 L: I also don't know where the fish is coming from, maybe from the ground, but for sure not from the air.
 T: We get a lot of things from the ground especially during the rainy season; we find different insects and fish.
 T: OK let me introduce the topic for today which is, Fishing in Namibia
 T: Which types of fish do we have in Namibia?
 L: Kavango bream, snoek, pilchards, etc.
 T: How do they get fish out of water, what do they use?
 L: They use nets
 T: Shows types of nets on the projector and asked questions e.g. What is the name of this net?
 L: Reads answers from the projector.

In the observed lessons there was evidence that TB asked lower order questions such as: What is it, Where? For example:

- T: What is pollution?
 L: Increasing number of people
 T: What is population distribution?
 L: Is how people are spread in an area.

In his case, TC asked questions throughout his presentations. The questions mostly comprised lower-order questions that were closed-ended with short answers. The following are examples of questions asked and answers from the learners:

- T: What is pressure?
 L: Force supply over an area.
 T: Anyone else with a different answer?
 L: Force per unit area
 T: I think, I like that one.
 T: What applies force?
 L: Air
 T: Where is force applied?
 L: In the ocean
 T: On the ocean? Be precise, please!

- L: On the land surface
T: What happens to pressure?
L: Pressure rises
T: When temperature increases what happens to the pressure?
L: The pressure also increases
T: Very good, there is a relationship between pressure and temperature.

TC talked most of the time. These questions were asked during his presentation of the lesson. For instance, in the first and third lessons the learners did not give detailed explanations of the issue under discussion – the teacher provided all the explanations. As noted above, the teacher said “Very good!” when a learner answered correctly and when answers were wrong he called on another learner to give an answer. The emphasis on asking questions in TC’s class was focussed on right answers, because he was not asking probing or challenging questions that could stimulate learners’ critical thinking skills.

4.4.6 Teacher’s use of the curriculum and assessment

In all three lessons that I observed, TA selected the topic as stated in the curriculum. The delivery of each lesson was as sequenced in the curriculum. The learning situation did not create the innovative and authentic learning experiences essential in the teaching of learner-centred curriculum. Learners’ complex ideas, skills and values were not developed in these three lessons. The topic for each of the three lessons in TA’s class was ECOLOGY. The teaching objective of the first lesson was for learners to investigate the reasons for the deterioration of the environment and to search for possible solutions. The second and third lessons had the same teaching objective: to investigate reasons for the deterioration of the Namibian environment. All three lessons were focused on the same basic competency according to the lesson plan, which required learners to be able to describe pollution of water, land and atmosphere.

As for TB, he planned lessons one and two on the same lesson plan because he was teaching the same topic. The topic was Regional Fishing and the basic competencies were, firstly, that learners should be able to name types of fish and describe the three main methods of catching fish and, secondly, to describe the economic importance of fishing. In his lesson plan, TB employed the objectives as stated in the curriculum. However, during the delivery of the lessons, the teacher did not teach the topics as sequenced in the curriculum. He combined different topics, for example: The first two lessons concerned Fishing in Namibia and the third lesson was on Population Density and Distribution, a totally different theme and topic in

the curriculum.

In the case of TC, he did not select his topic as stated in the curriculum. His lessons were based on the topic, Local Winds, while the topic in the curriculum is Air Pressure Systems. However, in the delivery of the first lesson TC used a broad approach in which he wanted learners to be familiar with the overall concepts of global pressure systems before he narrowed it down to the local level. The teacher in this case created an innovative and authentic learning experience which was challenging to the learners because, as he claimed, learners practically learn about global pressure systems in upper grades. The teacher's innovativeness was also reflected in the use of the objectives. He did not use them as stated in the curriculum, but instead adapted them to suit the level of his learners. The objectives of the three lessons were:

1. Learners should be able to identify the types of breezes, namely land and sea, mountain and valley,
2. Learners should be able to explain how land and sea breezes as well as mountain and valley breezes form,
3. Learners should be able to discuss in pairs the questions presented to them and demonstrate their findings on the chalkboard.

The teachers did not provide much information regarding continuous assessment during the interviews, so I looked at how they did the assessment while I observed their lessons. It was clear during the observations that only informal continuous assessment in the way of asking questions was done in the classrooms of all three teachers. The teachers did not give clear indication of how they implement continuous assessment in their lessons.

Nevertheless, only TA gave the learners an assessment activity in his third lesson. The activity was on project work for one week and read as follows:

- In an area where you live identify any type of pollution found specifically in the area.
- Explain the effect of that type of pollution within your surroundings.
- Suggest solutions that must be taken in order to solve the problem.

The teacher gave this project verbally. I observed that the learners were confused about what was expected of them. However, the project, although given verbally, displayed some elements of enquiry-based learning because learners were to “identify the phenomenon”, “explain the impact of the particular type of pollution” and “suggest possible solutions” to deal with the issue.

4.5 Data collected through document analysis

The aim of engaging in document analysis was to increase the authenticity, reliability and validity of the findings of this study. Additionally, it also enabled me to establish whether the actual teaching and learning as practised in the classrooms were in line with the expectations of relevant policy documents. The documents analysed included each teacher's scheme of work, their lesson planning and learners' written work.

a. Teachers' schemes of work

In order to achieve the outcomes of the national curriculum, teachers develop schemes of work for their subjects in order to translate the outcomes of the curriculum into teaching and learning. A scheme of work is used by the subject teacher to plan teaching and learning for the year and is divided into three terms. The scheme of work is developed from the syllabus and not from the textbooks. All three teachers provided me with schemes of work they developed themselves. The schemes are organised in the form of a table with columns entitled: theme and topic, learning objectives, basic competencies, targeted date and completed date (See Appendix F). As shown in the Appendix, these schemes of work indicate no evidence of dates when the teaching and learning took place, which makes one wonder whether the schemes were actually used. There also is no indication of whether the scheme of work was monitored by the Head of Department to ensure that it was implemented effectively. Although the monitoring appeared not to have been done, the schemes of work showed the aims, the competencies and learning outcomes that reflect the relationship between learner-centred and enquiry-based approaches as stipulated in the Geography syllabus, as explained in Chapter 2, section 2.4.3.

b. Teacher's lesson plans

The three teachers provided me with their lesson preparations before I observed their lessons. Each teacher had his own format of writing the lesson plans, but all the preparations had the same main components such as theme and topic, learning objectives, basic competencies, lesson presentation, teaching aids and resources, and assessment/homework. It is very interesting to note that all the lesson plans were well written and the activities reflected learner-centred and enquiry-based approaches. The lesson plans that I was provided with also contained homework for each lesson presented. However, as noted in the findings from

classroom observations, I did not observe the lesson plan being implemented as prepared. As with the schemes of work, the lesson plans did not show evidence of monitoring by supervisors (see Appendix G).

c. Learners' written work

The three teachers could not provide me with learners' exercise books and detailed written work. Only TA and TC gave me copies of the question papers from past examination that they give learners to work on (See Appendix H). Some of these worksheets were not marked by the teachers and no feedback was given. I noticed that the learners did peer marking or sometimes marked their own work when given correct answers on the chalkboard. There was evidence that the teachers did not control the learners' work, including assessment activities.

4.6 Summary

The results of my research into how the Grade 10 Geography teachers understand and implement the learner-centred, enquiry-based approaches in the case study schools are presented in this chapter. The findings were obtained from data from interviews, classroom observations and document analysis as guided by the research question(s). As indicated in Chapter 3, the presentation of the findings was facilitated through themes and key concepts emerging from the research questions and gaps identified from the interviews. A critical feature in the presentation of the findings is the use of extracts from the interviews and classroom observations. In Chapter 5, I discuss my findings by interpreting and analysing the participants' views in relation to my research questions while illustrating the discussion with material from the extracts. The discussion also links my findings with the reviewed literature.

CHAPTER 5: ANALYSIS AND DISCUSSION

5.1 Introduction

This study set out to examine how Grade 10 Geography teachers in Namibia's Kavango region understand and experience the implementation of learner-centred teaching in their classrooms, with special reference to the elements of enquiry-based learning. The data collected, as presented in the previous chapter, are analysed in this chapter in the hope that it will enable me to find answers to the research questions. This chapter therefore discusses the findings presented in Chapter 4 in relation to the literature reviewed in Chapter 2. While the possible answers to the research questions are interconnected, some findings will, for purposes of clarity, be discussed here under themes and sub-themes that emerged from the research questions.

5.2 Teachers' understanding of learner-centred and enquiry-based teaching

The central aim of LCE is the shift from teaching to learning with an emphasis on learners' learning rather than delivery of content. With this in mind, the Namibian Department of Basic Education aims to develop learners with a flexible and enquiring mind, critical thinking skills, the capacity to adapt to new and challenging situations, and who are able to learn continuously on their own initiatives (Ministry of Education, 2009:9). As indicated in Chapter 2, teachers are required to employ learner-centred teaching methods in their teaching to facilitate "interactive teaching and learning: learning by understanding and through productive activities and cooperation" (Ministry of Education and Culture, 1993:83).

In their responses as to what they know about learner-centred teaching, Teachers A (TA), B (TB) and C (TC) indicated that they are familiar with this teaching approach because it is an expectation in the Geography syllabus and has formed part of their teacher-training content. However, their real level of understanding of LCE emerged through their answers to other questions in the interviews and during observation of lessons. Essentially, the overall conception of the three teachers came down to understanding learner-centred teaching primarily as involving the use of puzzles, group work, peer work, using worksheets, and getting learners to present their insights.

These research findings indicate that the three teachers could not give a detailed description

of the learner-centred methods they are employing in their teaching. This shows that the teachers' practice was not focused on the characteristics of LCE, as suggested in Chapter 2. It is evident that the teachers continue to see their role as similar to that of the traditional teacher-centred perspective. In this perspective, learners are not provided with opportunities to make meaning of new concepts and processes through interaction with others through concrete objectives and their own inner reflections (Du Plessis & Muzaffar, 2010:32). Kasanda *et al.* (2005:1821) attribute the persistence of this perspective to the fact that, as in many other countries in Southern Africa, the history of teaching in Namibia is characterised by transmission of knowledge from teacher to learner.

The teachers provided more details regarding enquiry-based teaching as a teaching strategy characteristic of LCE. In exploring the teachers' understanding of what enquiry-based teaching is, TA said it involves getting learners to identify geographical questions, collect data, analyse data and make presentations. TC expressed his understanding that EBL is more concerned with field excursions. This is in line with the UNESCO (2010:1) suggestion that "enquiry learning is a learner-centred approach which prioritises high order thinking skills. It may take several forms including analysis, problem solving, discovery, creative activities both in the class and the community".

It is elaborated that, in enquiry learning, learners take responsibility in processing the data they are working with to derive their own conclusions. TB expressed his idea of EBL as a teaching approach that begins with consulting the learners as to their previous knowledge on a topic and the teacher then delivering the topic on the basis of the assessment of the learners' previous knowledge. Unlike TA and TC, TB emphasised only this aspect of EBL. According to Butt (2002:123), what Geography teachers understand by the term "enquiry-learning" differs in vital ways. In addition, Roberts (2010:6) asserts that ways in which geographical enquiry is understood are influenced by teachers' encounters with enquiry in Geography courses and projects, as well as their own teaching.

5.3 The role of the syllabus in supporting Geography teachers

In this section I discuss how teachers use the syllabus in their planning of Geography lessons; how they make use of learners' previous knowledge; how they account for learners' diverse needs; and the teaching strategies they use to enhance learner involvement in their lessons.

5.3.1 Use of the syllabus

The teachers all experienced the national Geography syllabus as an effective guide for their teaching. The teachers responded that the syllabus guides them effectively and that they design their own schemes of work from the syllabus to adapt it for their teaching. Being able to plan what should be taught and structuring learning through teaching is an important condition necessary for the implementation of LCE. Weimer (2002:xvi) consequently argues that LCE focuses on “what the learner is learning, how the learner is learning, the conditions under which the learner is retaining and applying the learning and how current learning positions the learner for future learning”.

The teachers also pointed out that there are challenges that relate to time constraints in adapting the syllabus to cover all required basic geographical competencies. The findings in particular reveal that teachers have a perception that there is not enough time to involve learners actively. This may suggest that teaching is in some ways still teacher-centred, despite the curriculum requiring teachers to employ learner-centred approaches. Adding to this problem may be the claim by Swarts (2003:24) that the design of the syllabus should be clearer with regard to how skills are to be developed in learners; the outcomes that should be expected; and how knowledge is to be organised and that less emphasis should be placed on describing information to be taught.

During the classroom observations I noticed that teachers are aware of the opportunity that the syllabus provides for comprehensive teaching on a particular topic. However, while the teachers were supposed to involve the learners actively through enquiry skills and activities for learners “to go beyond” what is in the syllabus, the teachers were doing all the teaching themselves, instead of devolving sections to learners. Perhaps the challenge lies with the way they plan the Geography lessons.

5.3.2 Planning Geography

A close relationship needs to exist between the quality of teaching and learning that takes place in a classroom and the meticulousness of planning by teachers. Schweisfurth (2013b:175) cautions teachers not to prepare individualised lesson plans based on limited learner activities that are teacher-driven and dominated by the more vociferous and able

learners. Therefore, the critical task of teachers in planning Geography lessons is to design learning activities capable of helping learners attain learning outcomes as intended (Lambert & Balderstone, 2010:166). In their responses concerned with planning, the teachers indicated that they wrote out lesson plans for their Geography lessons, although TC indicated that he did not prepare daily lesson plans, but taught using his self-prepared schemes of work (see Appendix F).

In my analysis of the lesson plans, I found no evidence of the plans being used to enhance learner-centred teaching as the teachers claimed. The teachers did not make use of various teaching and learning support materials, nor were the lessons designed in a manner that would facilitate the kind of learning that places the learner at the centre of the teaching process as a whole in line with the conceptual understanding explored in Chapter 2. As a result, teachers did not take into serious consideration the needs of learners as stipulated in Namibian educational policies (Ministry of Education and Culture, 1993; Swarts, 2003; Ministry of Education, 2009).

Despite various activities being outlined in the teachers' lesson plans, they lacked the characteristics of quality education as suggested by UNESCO (2009:7), and shown in Chapter 2. Because of the absence of some of these characteristics, activities might not have enhanced learning with understanding. My classroom observations in TB's lessons showed that there can be discrepancies between what is in the lesson plan and what actually happens in the classroom.

During observation I noticed that the teacher was presenting information on the types of pollution on PowerPoint, while the learners were listening passively.

This revealed that teachers in some instances do not follow their lesson plans, which, according to Lambert and Balderstone (2010:87) may be a good thing only if the correct methods are used. In fact, Lambert and Balderstone (2010:87) suggest that successful teaching involves the teachers being in charge of what to do to bring about the desired learner-focused learning and being able to deliver the learning. Even if this might be the case, teachers still need to plan their lessons in accordance with the requirements of geographical enquiry for effective teaching and learning to take place, as Roberts (2003), Lambert and Balderstone (2005:41) and Butt (2002:101) suggest.

According to Weimer (2013:71), “[being]learner-centred is not an easier way to teach. Some teachers sense this and avoid it; others experience it and back away”. This implies that when teaching is learner-centred, it demands sophisticated skills for designing instructional materials and activities so that learners can do more learning on their own. In this case what and how well they learn is directly linked to the activities employed to engage them in class or at home (Weimer, 2013:12).

The delivery of lessons as sequenced in the syllabus was noted as a challenge in the lessons that I observed in TB’s classroom. He selected a topic as stated in the syllabus. However, the teaching situation in TB’s classroom did not facilitate the acquisition of learners’ complex ideas, skills and values that are developed through sequenced teaching. While the teaching objectives of the lessons required learners to name types of fish, to describe three main methods of catching fish and to describe the economic importance of fishing, it was clear during the delivery of the lessons, that the teacher did not teach the topics as sequenced in the syllabus and in his planning. He combined different topics, for example: the first two lessons were on ‘Fishing in Namibia’ and the third lesson was on ‘Population Density and Distribution’, a totally different theme and topic in the syllabus. Cautioning against such neglect of sequencing, Swarts (2003:25) argues that most areas of learning in the syllabus have some parts which necessitate sequencing of the core structure of concepts and skills to be acquired by learners.

For his part, TC employed a broad approach to teaching in which he wanted learners to be familiar with the overall concepts of global pressure systems before he narrowed it down to the local level. The teacher in this case created an innovative and real-life learning experience which was challenging to the learners because, as he claimed, “learners learn about global pressure systems in upper grades”. This finding is supported by Swarts (2003:25) who advises teachers that the decisions about which additional skills to include in their lessons, and how to sequence the learning experiences within the framework of a specific grade should be based on the context of each school and class. TC’s innovativeness was also reflected in the use of his lesson objectives. He did not use them as stated in the syllabus, but instead adapted them to suit the level of his learners.

5.3.3 Useful teaching strategies

As discussed in Chapter 2, the approach to teaching and learning in Geography is based on a paradigm of learner-centred education in Namibia (Ministry of Education, 2010:7). This implies that teachers are expected to use teaching techniques that fit the purpose and content of the lessons and at the same time encourage active learner participation. This is in line with Lambert and Balderstone's (2010:90) argument that an enquiry-based approach to teaching and learning in Geography will encourage learners to engage actively with questions, issues and problems, rather than merely accept the conclusions, research and opinions of others passively.

In their responses regarding the teaching strategies they found useful in teaching Geography, the teachers were unanimous in declaring that, in their view, the best method was to involve the learners in the learning process so that they constructed knowledge. This included making use of multiple opportunities for learners to express their thoughts as a way of enhancing understanding and exchanging ideas with others (Du Plessis & Muzaffar, 2010:32). This is something that rarely happened during my observations. So for example, when learners presented their findings of their homework on the types of pollution in TA's class, no learner except the three learners who presented were actively involved - the other learners were just listening.

For Weimer (2013:10) the challenge for learner-centred teachers is to employ strategies that give learners control and responsibility corresponding to their ability to handle the learning strategies. This is because the main aim of learner-centred teaching is the development of learners as autonomous, self-directed, and self-regulating learners, as shown in Chapter 2. In the case of TB, his preferred method of involving learners in all his lessons was through the use of worksheets. Despite my questions, he did not elaborate as to why he considered worksheets to be the best method.

However, my finding is that the use of worksheets in TB's class was influenced by the number of learners in the class. In such a scenario, Butt (2002:100) also advises Geography teachers to adopt and adapt different teaching strategies to address and promote variations in learning styles of their learners because it may require abilities to perceive, understand, store, and relate information dealing with spatial issues. Lambert and Balderstone (2010:232),

however, warn teachers not to rely too heavily on worksheets – to avoid “worksheet fatigue” – because it can have a damaging effect on the motivation of learners. Teachers should rather ensure that there is a clear purpose for the worksheets and that they are carefully planned and well presented.

TC’s response on useful teaching strategies acknowledged the significance of putting learners at the centre of their learning. He viewed planning for a lesson as being very useful if learners were to be involved in their learning. He was also of the opinion that creativity of the teacher is central to teaching, rather than the training that teachers receive in teaching theories such as those in learner-centred approaches, as elaborated on in Chapter 4. Commenting on this creativity, Lambert and Balderstone (2010:89) point out that teaching style is a product of the way the teacher relates to learners and the strategy he or she identifies to bring about learning that focuses on the learners. The responses of all the three teachers suggested that they believed in the essence of active-learner involvement in learning, but each one of them had their own preferences on how to work towards that.

5.3.4 Learners’ previous knowledge

On the use of learners’ existing knowledge in their lessons, the three teachers agreed that they did that. LCE values prior knowledge and experience of learners (Du Plessis & Muzaffar, 2010:32). TA and TB elaborated further that they commenced their lessons by allowing learners to express the previous knowledge that they obtained from the outside world. For his part, TC explained that the links between the topics make it imperative to start with what learners already knew from the previous grades and then to introduce them to new knowledge. Lambert and Balderstone (2005:41) agree that it is important for teachers to consider how lessons will build upon previous learning and how it will contribute to future learning in subsequent lessons. The learner-centred approach, specifically with the aspects of EBL, provides opportunities for learners to draw on their existing knowledge when they analyse data, synthesise findings, and apply new knowledge (Ministry of Education and Culture, 1993:121).

All three teachers whom I observed introduced their lessons with what the learners already knew. Questions were asked to relate the lessons to the learners’ previous knowledge before introducing the new knowledge. This was in line with the requirements of the curriculum

which states that teaching and learning need to begin with what the learners already know and can do with their previous knowledge, and then proceeding with the construction of new knowledge (Du Plessis & Muzaffar, 2010:32; Ministry of Education, 2010:4).

It is clear from the responses of the three teachers that the use of previous knowledge as a step towards the construction of new knowledge is central to teaching that aims to put learners at the centre. In particular, TC drew our attention to the role of the syllabus in creating opportunities that allow for the use of previous knowledge for further learning, as elaborated on in Chapter 4. Swarts (2003:23) highlights that the syllabus needs to give time and space, not for stimulating and building on learner's previous knowledge only, but also for enabling learners to explore their immediate environment for information and to experiment with new knowledge. This then will enable learners to construct new knowledge through social interaction with others and their surroundings. LCE values innovative thinking on learners' part as well as their efforts to make their thinking visible (Du Plessis & Muzaffar, 2010:32).

5.3.5 Needs, capacities, and interests of the learners

According to Altinyelken (2011:40), teachers are expected to relate to and know their learners well so as to identify their potential. This enables teachers to engage teaching that can provide supportive learning opportunities which are appropriate and challenging for learners. Commenting on whether the processes of learning in their Geography classes were driven by the needs, capacities, and interests of the learners, TB explained that learners have different interests, but as a subject teacher one should endeavour to make the learning process interesting.

Apart from teachers creating interesting teaching and learning scenarios, the needs, interests and capacities of learners may also be addressed by using scaffolding of certain concepts and skills. This means that teachers provide "light assistance" in helping learners deal with learning that they might find challenging on their own (Du Plessis & Muzaffar, 2010:34). In line with the notion of the Zone of Proximal Development (ZPD) in social constructivist learning, learners can solve problems that are beyond their present levels of understanding if they are given support and assistance.

TA elaborated that it is the flexibility or will of the teacher that is crucial in accommodating the needs, interests and capacities of learners, rather than teachers acting only in accordance with a deliberate school policy. In agreement with TA's explanation, Du Plessis and Muzaffar (2010:32) also argue that LCE should provide learners with support and challenging activities for learners to reach their full potential. This guidance, however, should focus on promoting learners' critical thinking, instead of telling them what to do or what to pay attention to (Weimer, 2013:23).

Interestingly, but in contrast with TA and TB, TC is of the view that, because learners will have to sit for an examination, the teaching needs to be driven by what they need to learn to prepare for the examination. He feels that learners can be motivated to be actively involved through the use of content that will obviously be of interest to them for purposes of the examination as elaborated below in section 5.6.3.

However, TC provided learners with support and guidance in the classroom during the class activity involving pair work that he had given the learners to do. He provided clarification when learners did not understand. The teacher appeared to have sound knowledge of the subject and assisted learners confidently with the concepts of pressure systems and local winds. These actions are in line with Spronken-Smith *et al.* (2007) who argue that one of the requirements of EBL is facilitated or scaffolded learning whereby learners are provided with guidance, resources or feedback, when and where appropriate.

5.4 Learner involvement and teaching

In this section I discuss how teachers through their choice of teaching methods promoted learner involvement in their lessons to encourage active learner participation. The goal of the learner-centred teacher is to enhance learning potential as an indispensable aspect of any experience where learners produce a product, perform a skill, or demonstrate their knowledge (Weimer, 2013:11). In this process, teachers function as guides, facilitators and creators of learning experiences. Contrary to this understanding, the learners in the three lessons I observed in TA's classroom were mostly listening to him teaching. Only five learners seated in front were involved in asking and answering the teacher's questions throughout the three lessons.

As stated in the introduction to this chapter, there is a gap between what teachers say they do and how they do it in practice. From the interviews, observations and document analysis, none of the participating teachers seemed to have adequately internalised what learner-centred education and enquiry based teaching is and how to apply it appropriately in their classrooms. Such an approach should adopt different teaching methods to address the variations in preferred learning styles of learners in order to develop them holistically (Butt, 2002:100). Drawing on my findings in Chapter 4, I discuss this by highlighting the following aspects:

- Enquiry-based learning activities
- Questioning strategies
- Teacher-learner interactions
- Out-of-classroom and hands-on activities
- Use of group work and collaborative learning
- Learning and teaching resources used

5.4.1 Enquiry-based learning activities

Enquiry-based learning is viewed as an integral part of teaching and learning in Geography and work done should include some elements of geographical enquiry (Roberts, 2003:10). Although the teachers who participated in this study did not specifically identify many aspects of enquiry in their teaching, their descriptions of how they teach geographical concepts included some of the elements of enquiry.

In TA's class, during the second lesson, the learners went in front and presented their findings on the homework. The teacher gave some guidance on how they had to present. I did not observe any other support given to learners in TA's class. EBL is viewed as an approach to teaching that is question driven, and involves active, learner-centred learning that enables learners to experience the processes of knowledge creation (Spronken-Smith *et al.*, 2007). The learners were not engaged in any task that required that they worked independently using learning materials during my classroom observations.

Catling and Willy (2010:65) suggest that EBL should enable learners to achieve learning outcomes that include critical thinking; the ability to conduct independent enquiry; responsibility for own learning; and intellectual growth and maturity. No out-of-classroom activities were employed throughout the lessons I observed in TA's classroom, except for the

project that was given in the last lesson in the form of assessment. In none of the three lessons that I observed did TB give learners activities that could enhance their skills of analysing, synthesising and thinking critically through enquiry-based questions. Instead, TB gave learners worksheets which they used to answer questions individually as a class activity which, however, would not stimulate enquiry skills. Catling and Willy (2010:63) state that it is essential that learners are not just doing the activities but are intellectually and emotionally stimulated by and engaged in them. In this regard, I noted that most of the activities were not challenging because learners searched for answers to questions in their textbooks.

In TC's case, the learners were not given activities requiring the kind of enquiry that expected that they answer logical or sequenced questions using different methods of learning. Teachers did not encourage learners to explain and ask further questions to make the learning challenging – the main emphasis was on learners providing correct answers. When the answers were correct, the teachers said “Very good, yes!” and proceeded with the lesson. When the answers were wrong, the teachers would ask a different learner to give the correct answer. If the answer was still wrong in a second attempt, the teacher supplied the correct answer.

5.4.2 Questioning strategies

Questioning, which gives learners opportunities to develop their thinking skills, is regarded as one of the fundamental characteristics of EBL. An enquiry approach to learning recognises that knowledge is not something “out there” ready to be learnt, but is generated in the process of answering questions (Roberts, 2003:39). The type of questions the teachers asked, especially in the lessons I observed (to a lesser extent in TC's class), were mostly closed-ended, which eventually prompted closed-ended responses which mainly lead to the recall of information.

It can be argued that the predominance of closed or factual questions is a less positive enhancer of classroom interaction that promotes EBL. This style of questioning by the teachers seeks predictably correct answers and the teachers' questions are only rarely used to enhance the development of further and more complex geographical thinking skills, which lies at the heart of EBL (Roberts, 2003:43). The use of open-ended questions, on the other hand, provides opportunities for broader, more personal responses and may generate further rich discussion and investigation. I therefore agree with the stance that, in enquiry learning,

“learners learn to ask questions by asking questions, they learn to evaluate answers by evaluating answers and they learn to think critically by thinking critically” (Weimer, 2013:22).

The three teachers used this questioning technique throughout their lessons, as indicated in their lesson plans. However, while the use of questions in lesson plans is generally regarded as good practice, it does not necessarily ensure that what happens in the classroom is enquiry-based. Roberts (2003:40), along the same line, argues that questions can become content headings rather than questions which really perplex and create a need to know. Furthermore, these questions that are predetermined for learners do not necessarily generate the learners’ own questions. In addition, Catling and Willy (2010:65) contend that such a teacher-dominated approach to questioning constrains learners’ ownership of their learning, and it does not develop the crucial skills of problem solving.

5.4.3 Teacher-learner interactions

My observations confirmed that many of the interactions in the lessons were teacher-initiated. There were instances in the classrooms of teachers asking learners to complete a sentence through direct repetition of the teacher’s explanation, or a teacher himself answering a question that he asked the learners. In TA and TB’s classes, the learners’ verbal interactions with the teacher were limited to single words and almost all the interactions were teacher initiated.

There also was an absence of learner-to-learner interactions in these classrooms because learners did not engage in any collaborative activities. In contrast, in TC’s second lesson, learners constructed their own knowledge and engaged in class discussion involving all the learners as well as the teacher. It was found that all the teachers monitored learners’ understanding during their lessons through probing questions. However, what was not seen was an effort to adjust their questioning according to learners’ answers so that the function of questioning shifted from checking understanding to developing learners’ understanding (Weimer, 2013:23; Roberts, 2003: 42-43).

5.4.4 Out-of-classroom and hands-on activities

As discussed in Chapter 2, in a learner-centred approach learners must interact with the content and environment and not just be passive recipients of information from the teachers. Based on this, my intention was to find out whether the teachers employed out-of-classroom activities. TC indicated that out-of-classroom and hands-on activities were dealt with theoretically, in which case he simulated the field activities in the classroom. TA and TB felt that they employed out-of-classroom and hands-on activities only when time allowed. However, the topics that these teachers dealt with at the time of my observations were topics which required out-of-classroom activities (see Appendix G).

My findings reveal that the actual out-of-classroom and hands-on activities did not take place because of lack of financial resources and institutional challenges such as the curriculum being congested, as discussed earlier. Experiences outside the classroom are essential because they provide learners with opportunities to practise skills of enquiry and problem solving in everyday life (Catling & Willy, 2010:73). In support, UNESCO (2004:28) states that these activities develop learners' creativity and enable them acquire the skills, knowledge, values and attitudes essential for responsible, active and productive citizens. The out-of-classroom and hands-on activities may include brief investigation on the school grounds and short visits to local communities, as well as visits to farms, offices and natural settings such as a desert, beach or national park.

5.4.5 Use of group work and collaborative learning

While EBL includes a range of educational approaches which focus on learners' active engagement in learning, as explained in Chapter 2, I observed that no group work was used at all in any of the teachers' classes. Instead, learners worked individually on given tasks like answering worksheets. TC gave his learners an activity in which they worked in pairs.

One reason for the lack of group work in these classrooms may be the large numbers of learners in the classes. I also found that teachers do not arrange learners in groups because the classrooms are overcrowded and they are even reluctant to organise such groups outside the classrooms if there is not enough space. Using small groups has the potential of involvement of each learner – it will give them opportunities to present ideas tentatively, test them against the ideas of others and reshape their understanding (Roberts, 2003:81). In these ways learners

working collaboratively could use exploratory talk to enhance conceptual understanding.

Even the Namibian Geography syllabus (Ministry of Education, 2010:7) stipulates that teachers should encourage cooperative and collaborative learning. The collaborative work should be implemented in such a way that the learners draw upon, connect, and analyse their knowledge and experiences through self-discovery and interaction with other learners as well as the teachers (Vavrus *et al.*, 2011:27). My findings suggest that teachers are unwilling to adopt the new approach of LCE and EBL because they are unfamiliar with the methodology and this may result in learners learning with limited understanding.

5.4.6 Learning and teaching resources used

The resources teachers use and the ways in which they use them help them to bring what they teach alive. However, although the three teachers acknowledged in the interviews that various resources need to be used in the LCE classroom to enhance active learner involvement, they, in reality, did not use resources to involve all the learners actively in their lessons. The teachers did mention different resources that they use in their teaching. TA found the use of his Geography textbook, maps, the chalkboard, worksheets, hand-outs and past examination papers very helpful. TB mainly made use of two resources which were textbooks and worksheets, while TC used textbooks and personal resources based on his experience.

My research suggests that there should be a close relationship between the planning processes and the preparation of resources. Teachers and learners can themselves be valuable resources for learning in a Geography class. Often the knowledge and experiences that teachers and learners bring into the Geography classroom are rarely used or exploited. This intellectual capital can be used to bring some reality into the classroom in a stimulating way, to involve everyone, either physically or even through the use of narrative.

5.5 Teacher's assessment practices

Assessment plays an integral role in providing teachers with evidence of what learners know, understand and can do (Department of Basic Education, 2011:49; Lambert & Balderstone, 2010:378). This further implies that the fundamental educational purpose of assessment is to offer feedback to the learners to help them progress in their learning. Feedback avails learners

the opportunity to constantly monitor and regulate their own learning and, in doing so, to evolve into independent self-directed lifelong learners (Warnich & Meyer, 2013:119).

According to the Namibian policy document, Ministry of Basic Education and Culture ([MEBC], 1999), the success of learning cannot be measured by a single test or final examinations. Thus, the important component of LCE is that assessment is conducted continuously throughout the learning process. Nevertheless, the teachers did not give much information regarding continuous assessment during the interviews, so I looked at how they did the assessment while I observed their lessons. It was clear that only informal assessment in the way of asking questions was done in the classrooms of the three teachers during their lessons. The teachers did not give clear indications regarding how they implement continuous assessment in their teaching.

When asked whether they employed activities such as problem-based, project-based and collaborative/group learning for assessment purposes, TC responded that he does not have enough time to make use of those activities in his teaching. In addition, I did not observe any assessment activity in TC's class, nor did he shown me how he planned to assess the learners on the topics of the three lessons. When asked how learners were going to be assessed, he replied that he would give them a test.

The absence of assessment activities, especially authentic tasks, can play a negative role in trying to establish learner-centred education. This statement is based on the claim by Vavrus *et al.* (2011:93) that the significance of authentic tasks is that they allow learners to be active, creative, and critical in thinking about how principles and concepts learned in class could be applied in varied contexts, and they also facilitate the use of different assessment tools by teachers.

Although TB said that he prescribed projects for continuous assessment, I did not see evidence of work already done by learners, nor did he give learners such tasks during my observations. Only TA gave his learners a project for assessment during my observations. The teacher verbally gave this project to the class during the last minutes of the lesson. Although the learners appeared to be confused about what they were required to do, they did not get a chance to ask the teacher to clarify the instructions.

TA could have presented the project on a paper, written with clear explanations of what he wanted the learners to do as continuous assessment should be clear, simple and manageable, and explicitly anchored in learner-centred principles and practice (Ministry of Education, 2009:37). From the learners' work, teachers must elicit reliable and valid information about the learners' performance in the basic competencies which will be used to give feedback to learners about their strong and weak points; where they are doing well, and why; and where they need to try more, how and why.

The three teachers could not provide me with learners' exercise books and detailed written work. Only TB and TC gave me copies of the question papers from past examination that they give learners to work on. Some of these worksheets had not been marked by the teachers and no feedback had been given. I noticed that the learners did peer marking or sometimes marked their own work when given correct answers on the chalkboard. It was clear that the teachers did not control the learners' work, including assessment activities.

5.6 Challenges and problems of implementing LCE and EBL

This section discusses the challenges and problems that were revealed by the participants in the study during their initial interviews and my classroom observations.

5.6.1 Overcrowded classrooms

All the teachers mentioned different challenges they had encountered in using learner-centred approaches. TA and TB complained about overcrowded classrooms that resulted in a lack of space and learners having to share chairs and desks. This, they said, made collaborative or group learning difficult, so that they resorted to the traditional way of teaching, which is lecturing. This may also prevent learners from moving their desks into groups and restrict teachers from doing enquiry-based activities that require learners to move around the classroom.

5.6.2 Time and teachers' workload

During the interviews all three teachers agreed that the workload was another hindering factor as this made it difficult to find enough time to plan teaching activities for active-learner involvement in their classrooms. According to MBEC (1999), teachers need to allocate time for learners to carry out tasks and acquire skills in LCE, but all three teachers indicated that

they did not get enough time to implement learner-centred and enquiry-based teaching.

A contributing factor to this might be that, only three periods are allocated for Geography teaching in Namibian schools in a week, while subjects like Mathematics and English are assigned five periods per week and Sciences four (Ministry of Education, 2009). My classroom observations showed that teachers had difficulty completing their lessons within the allocated time of 40 minutes for a lesson in these three periods per week.

5.6.3 Examinations and learner-centred, enquiry-based teaching

Apart from challenges relating to work load, time constraints and over-crowdedness, the use of learner-centred, enquiry-based activities is also affected by the need to prepare learners to pass examinations. TC revealed that he concentrated his teaching on completing the basic competencies required in the syllabus because he believed that it was important and that was what would be tested when the learners wrote their examinations. He felt that doing all the (learner-centred, enquiry-based) activities was a waste of time and that content was more important than learners' active involvement in learning.

With the examination results being high stakes for teachers and learners, teachers become unnecessarily burdened by the pressure "to 'teach to the test' and only to value achievement which 'scores' in examination terms" (Du Plessis & Muzaffar, 2010:67; Lambert & Balderstone, 2010:378). The use of past examination question papers suggested that the teachers preferred tasks that would form part of the examinations. The implication is that, the learners are mostly exposed to teaching to the test and are not formally assessed as to how conversant they are with enquiry skills.

5.6.4 Teachers' professional development

Another issue that was raised was that of the professional development of teachers. Professional development in this context refers to the training that teachers receive to inform their practice of learner-centred and enquiry-based teaching, so as to increase their pedagogical knowledge and confidence in Geography teaching. Vavrus *et al.* (2011:83) point out that it is important for teachers with limited understanding of pedagogical knowledge regarding LCE to attend professional development opportunities at colleges, universities or through high quality workshops and short courses offered at other institutions. It is further suggested that, while the provision of high quality in-service programs and on-going school-

based mentoring for practising teachers is acknowledged as one of the useful ways to bring about change in the direction of LCE, this research found that opportunities for teachers to attend in-service workshops are very limited.

Responding to being asked about the contribution to their teaching of the workshops on learner-centred approaches such as enquiry-based teaching they have attended, TA and TC claimed that they had attended workshops about both learner-centred and enquiry-based teaching. They did not highlight the ways in which their teaching benefited from the workshops. Unlike TA and TC, TB said that he had never attended a workshop or received support in terms of in-service training.

5.7 Summary

This chapter demonstrates the instances in which LCE and EBL approaches in Geography are implemented in Grade 10 Geography classrooms on the basis of experiences, resources, and training available to the teachers. It shows that it is important to compare what teachers say they do in their Geography classrooms with how they actually deliver their lessons. Analysis of the data collected and compared suggests that while the teachers have knowledge of what LCE and EBL involve, factors, among others the time allocated for the lessons and the culture of having to teach to the test impinge on the use of varied activities that would stimulate and enhance enquiry skills in the learners.

The interaction of the analysis in this chapter and the literature reviewed in Chapter 2, suggests ways in which LCE and EBL approaches in Geography can be implemented to promote more learning than teaching. The next chapter expands on this.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter I provide my findings in an attempt to answer the research questions that drove the whole research process. I do this by reflecting on the research process, sharing the key findings and suggesting ways in which teachers may be supported to deal with the challenges of implementing policy and teaching Geography in particular contexts. Limitations of the study are indicated as well, and areas for further research in LCE and EBL teaching are suggested.

6.2 Overview of the research process

The primary aim of the study was to investigate how Geography teachers experience the implementation of LCE and elements of enquiry-based teaching in their classrooms. As indicated in Chapter 1, my initial interest in this study was prompted by my own experience as a Social Studies teacher over many years – an aspect that I kept in mind throughout the research process to avoid bias. The Grade 10 Geography teachers in this study underwent teacher-centred education training programmes. Apart from the in-service training sessions, no one had acquired professional development in LCE. This is confirmed by recent research indicating that Namibian teachers' understanding of LCE is narrow and superficial (Swarts, 2003). The particular research questions that this study aimed to find answers to were:

- How do Geography teachers in Namibia understand the use of enquiry-based approaches to teaching as part of learner-centred education?
- How do Geography teachers in Namibia understand the use and implementation of learner-centred education?

In the literature review in Chapter 2, different viewpoints on LCE and enquiry-based teaching were discussed to contextualise the demands made on teachers in the new syllabus. It is also suggested that there are possibilities for Namibian schools to share in the universal drive for quality education. This may be possible through the implementation of innovative learner-centred and enquiry-based teaching approaches in subjects such as Geography. It is noted that the Namibian policy context acknowledges the significance of learner-centred and enquiry-

based teaching in facilitating the acquisition of knowledge and skills useful for continuous learning and dealing with the socio-economic and environmental challenges in life. Such teaching is embedded in the constructivist approach which informs teaching and learning processes in which active learner participation is the major focus and aims to ensure that there is more and not less learning.

In Chapter 3, I discussed how I used an interpretive, qualitative, case study orientation for this study to investigate the understanding and implementation of LCE and EBL of the participating Geography teachers at three different schools in the Kavango region. The interpretive research design allowed me to understand what teachers in this case study said, did and believed. The use of semi-structured interviews helped me to probe deeper into the teacher's perceptions and views regarding the concepts of LCE and EBL, thereby increasing the richness of the data collected. The combination of the data collection methods which were interviews and classroom observations, together with low-level document analysis made validation of the data possible and so too did informal triangulation of the findings. The data was presented in Chapter 4 by way of summarising the main categories and themes that emerged from the research.

An interpretation of the data was offered in Chapter 5. The study focused on the instances in which LCE and EBL approaches in Geography are implemented in classrooms on the basis of experiences, resources, and training available to the teachers. The study revealed that it is important to compare what teachers say they do in their classrooms with how they actually deliver their lessons. With the use of the reviewed literature, the analysis and interpretation in this chapter suggest ways in which LCE and EBL approaches in Geography can enhance active learner involvement in teaching.

6.3 Summary of the research findings

Based on the findings articulated in Chapters 4 and 5, none of the participating teachers seems to have fully implemented learner-centred education and enquiry-based teaching as required in the syllabus. The conversations I had with the research participants demonstrated that they were not conversant with a precise definition or detailed description of either of the concepts LCE and EBL. However, some of the characteristics of LCE and some aspects of EBL were present in their descriptions of how they teach Geography.

Although this was the case, it was found, especially in the classroom observations, that the prevailing teaching in Geography was representative of the traditional teacher-centred approach. Teaching was dominated by direct instruction in the lessons that were observed. Despite this, I also observed characteristics of teacher-learner interactions which mostly occurred at the beginning of the lessons as a way of testing prior knowledge. Teachers' verbal interactions with the learners' were limited to single words or phrases, however, and almost all the interactions were teacher-initiated.

While learners in one of the classes had an opportunity to engage in pair work while doing a task during my observations, I saw no instances of group work or collaborative learning in the other Geography lessons observed. There was also a lack of learner engagement in authentic tasks and the teachers highlighted the difficulties that prevented them from teaching outside the classrooms.

The idea of involving learners actively in their teaching was not understood and implemented by the teachers as an integral process of their interaction with learners, but seemed more like a superficial inclusion in their teaching while I did the research. Furthermore, in the effort to involve learners actively, their teaching was characterised by the use of closed questions that mostly required recall. The majority of the questions teachers asked were not geographical enquiry questions as they targeted the learners' ability to memorise facts.

The results of this study revealed that teachers face problems in terms of integrating geographical enquiry in their teaching in the limited time of three periods per week. Structural barriers such as teachers' workload, lack of resources, overcrowded classrooms, and time were cited as major constraints in the implementation of enquiry-based teaching in the classrooms. The teachers pointed out that a lack of training and professional development in the LCE and EBL teaching strategies also affects their teaching practices.

My findings suggest further that the teachers found planning to be a challenge and that the syllabus consequently was often misinterpreted. Problems relating to the application of relevant assessment practices and providing learners with useful feedback to support their learning needs were also identified. It also became evident that the teachers lack understanding of how to plan and use teaching and learning aids to involve learners actively.

During the classroom observations, the teachers did not make use of varied teaching and learning support materials, nor did the lessons address the variety of needs learners may have.

Finally, amidst these challenges in employing LCE and EBL approaches, I noticed that there was one important factor that impinges on the implementation of these approaches. Teachers are preoccupied with the right fact and format for answers in high stakes examinations (at the end of Grade 10). I found that this prevents teachers from using approaches that develop important enquiry skills when these are not formally assessed in examinations. The teachers are of the view that they have no other option but to resort to teaching to the test. TC summarised this view as follows:

So, those things [covering the syllabus] also do control the ways you can delve more into these learner-centred approaches, because they are very time consuming ... that is the truth about it. It is quite interesting, very involving with the learners, but the problem is that at times if we implement them to the fullest in schools, I tell you the syllabus will not be covered. The worst case is to have the learners go into examination without completing the syllabus, that will be a national disaster, so I do use them, but not really....if I want to test but (umm) as part of the what? The assessment? We emphasise more on that [examination] so that our children can familiarise themselves with typical examination questions rather than these interactive tasks and etc. which will not come in the final examination, it becomes a problem.

6.4 Recommendations

The following recommendations are made on the basis of the findings and interpretations of this study.

Firstly, at the national level, teachers should be provided with continuous support and monitoring following their participation in professional development programmes offered by educational support institutions such as the National Institute for Educational Development [NIED] and departments of the Ministry of Education. The synchronisation of reforms in the development of curricula, the examination system, and in teacher education remains vital to the success of any policy aimed at encouraging teachers to use LCE methodologies such as EBL effectively in their classrooms.

For LCE to be adapted usefully in local African contexts such as Namibia, teachers need to understand its overarching philosophy; be motivated to change practice; adapt and apply pedagogies such as EBL appropriately and have the capacity to do it. This makes it imperative for teachers to grasp the conceptual underpinnings of LCE and its related methods, and possess adequate educational content and knowledge. When this is done, teachers may be in a position to deal with obstacles associated with instructional change as they develop new understanding, and nurture a culture of enquiry in their classrooms. All the

teachers need to be capable of leading classrooms in which learners have opportunities to engage in tasks and assignments that enable them to demonstrate the deep understanding of content and higher-level skills necessary for success in school and real-life situations.

Secondly, at the regional level, learning materials strongly affect the ways teaching is conducted inside and outside of the classrooms. In this regard, Namibian national policies can liaise with local publishing companies and increase the availability of textbooks. Equally important are the provision and maintenance of sound infrastructure and other facilities that make schools conducive to LCE. Under conditions such as overcrowded classrooms, Schweisfurth (2013b:175) advises that teachers should strive to develop the challenging capacities to cater for “the needs of each individual learner and to facilitate access to appropriate and stimulating resources and activities to meet these needs”.

My findings suggest that, if teachers were given extended class time, they might provide learners with opportunities to demonstrate their learning in various authentic ways and offer opportunities for insightful investigations in geographical enquiry. Similarly, there would be far greater motivation for teachers to utilise LCE if approaches to teaching such as EBL, as stipulated in the curriculum, informed the questions in high-stakes national examinations.

Thirdly, at the school level, Principals and Heads of Department need to put in place mechanisms to monitor the implementation of lesson plans as stipulated in the policies. Schemes of work and lesson plans should be inspected with a view to see how teachers deliver their lessons; the challenges encountered and plans for dealing with those challenges as they relate to LCE and EBL approaches. This may be complemented by class visits by management as part of enforcing adherence to teaching as required by the policy context.

6.5 Limitations of the study

The limitations of my study derive from the research methodology. People have different expectations or ideas when they see a researcher. I felt that I intruded and affected private space as a whole at one of the schools (my research sites). There was a difference between what I had planned and the way I conducted the research, but I could make responsible decisions to manage the situation. Apart from this, as a case study approach utilising a qualitative method was chosen for this study, the key findings may only be applicable to the sampled schools since, as suggested in the literature, case studies lack the attribute of being

generalisable beyond the studied entities.

Another shortfall in this study relates to the classroom observations. It is widely believed that individuals do not behave naturally when they know they are being observed. Although aspects of LCE were employed in the classrooms observed, I realise that I was only there for few observations and do not know what happens overall throughout the year. In this regard, this study recommends that future investigations on LCE and EBL approaches in schools, need to be investigated with the use of action research methodology.

A study conducted with the use of action research enables the researcher to collect data over an extended period of time, while functioning as a participant-investigator. Action research is accepted as a valid research method in fields such as education because it focuses on the understanding of the problem and developing an intervention with people involved to answer the “why” and the “how” questions. In my case, however, action research would not have been possible as I was a full-time student on study leave. Given the usefulness of LCE and EBL in the findings of this study a future investigation covering all the educational regions of Namibia would also contribute significantly to the promotion of Geography teaching and other subjects in the education system.

A key conclusion in this study is that the implementation of LCE is complex and requires careful planning across different sectors in the education system. The policy says teachers must employ LCE, but I noticed that the teachers, although struggling, are almost giving up because it just does not work. When they try to implement what they understand by LCE and EBL approaches, conflict emerges with regard to overcrowded classrooms, lack of resources, time constraints, teachers’ workload and absence of effective professional development. This shows that there is a disagreement between what the policy says and what happens in the schools.

However, the internationalisation of universal education as advocated by UNESCO requires countries to pursue quality education in the form of LCE and associated EBL that imparts skills useful not only in the classrooms but in continuous learning after school. Cognizant of different policy contexts and their varied challenges, UNESCO advises that every country is supposed to measure how far it can go in implementing these policies on quality education. In this process, it is crucial to understand how local circumstances impact the implementation of

reform policies and what the possibilities are for ensuring that teachers implement what, in the long term, has the interests of learners at heart. While teachers currently still have a fragmented idea of LCE and EBL and other dimensions of teaching, like learner results in examinations, dominate the teaching choices they make, teaching will remain teacher-centred and not learner-centred.

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APPENDIXES

Appendix A: Director's Permission to Conduct Research



REPUBLIC OF NAMIBIA
KAVANGO REGIONAL COUNCIL

DIRECTORATE OF EDUCATION

Tel: 258911
fax: 2589213

Enquiries: Fanuel Kapapero
Email: kapapero@iway.na

22 January 2014

Ms. Cherly Awases
Faculty of Education
University of Stellenbosch

Dear Ms. Awases

Re: Request to do research at schools in the Kavango region in 2014

The Directorate of Education in the Kavango Regional Council has received a letter from your Supervisor, Prof Boete requesting for permission on your behalf to conduct research in the Kavango region. As per the information contained in the letter, you are currently pursuing a Master of Education and you have successfully completed your course work. Congratulations! Your research topic is: *Experiences of secondary school Geography teachers in learner-centred, enquiry-based teaching and learning in the Kavango region.*

The Directorate of Education has carefully studied the request and found it to be relevant to the challenges facing our education system in Namibia. As one of our teachers in the Kavango region, we are pleased that you have chosen to investigate the topic as outlined above. We are convinced that the outcome of your research will add value to the teaching and learning of Geography at the secondary level. It is against this background that the Directorate of Education grants permission for you to do research at schools in the Kavango region.

We thank you for your kind attention.

Yours sincerely,


Fanuel Kapapero
Acting Director



Appendix B: Consent Form



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvennoot • your knowledge partner

STELLENBOSCH UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

Experiences of secondary school geography teachers in learner-centred, enquiry-based teaching and learning in Namibia.

You are asked to participate in a research study conducted by Cherly Lydia Awases, MEd Geography education student from the Department of Curriculum Studies at Stellenbosch University. The results will be contributed to a thesis. You were selected as a possible participant in this study because you have experience of teaching Geography at the secondary level.

1. PURPOSE OF THE STUDY

The purpose of this research is to investigate how Geography teachers experience the implementation of learner-centred teaching with specific focus on elements of the enquiry-based approach as stated in the National Curriculum for Basic Education in Namibia.

2. PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

Participate in an individual interview, which will be recorded and transcribed. The session will be held at your school in the afternoon at a time that is convenient to you and within 30 minutes. The classroom observation will be conducted in your class the day after the interview.

3. POTENTIAL RISKS AND DISCOMFORTS

There are no foreseeable risks, discomforts, or inconveniences as far as this study is concerned.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Learner-centred teaching and learning, particularly the enquiry-based approach, is one of the methodologies that might provide a context for developing learners with enquiry skills for independent learning. This proposed study has potential to contribute to a policy drive for increasing the visibility and use of enquiry-based learning in geography policy documents and in schools.

5. PAYMENT FOR PARTICIPATION

The participant will not receive payment for participating in the study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of storing the data safely on the researcher's personal laptop and it will be encoded with a password. The researcher and her supervisor are the only people who will have access to the data. The data obtained during the study will be recorded on a digital voice recorder and then transcribed precisely by the researcher. The recorded data will be deleted from the laptop once the study is completed.

The results of this study will also be released to the researcher's sponsors, the Carl Schlettwein Foundation.

6. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

7. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact:

Ms Cherly Awases (Principal Investigator)

Prof. Peter Beets (Supervisor)

8. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to me by Cherly Awases in English and I am in command of this language. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

Name of Subject/Participant

Name of Legal Representative (if applicable)

Signature of Subject/Participant or Legal Representative

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____. He/she was encouraged and given ample time to ask me any questions. This conversation was conducted in English.

Signature of Investigator

Date

Appendix C: Interview Schedule

Interviewer:

Date:

Interviewee:

School:

Teacher details

- a. How long have you been teaching Geography?
- b. When did you complete your teacher training?
- c. How many classes do you teach and how many learners do you have in each class?
- d. What other responsibilities do you have apart from teaching?

1. Learner-centred and enquiry-based teaching approaches

- a. Are you employing learner-centred teaching methods in your daily Geography lessons?
- b. Could you describe some of these learner-centred approaches you are using?
- c. What do you know about enquiry-based teaching and learning?
- d. How does the Geography syllabus guide your teaching in Geography?
- e. What do you think is a useful strategy in teaching Geography? And why?

f. Resources

- a. What resources do you use when involving learners actively in geography teaching?
- b. Have you ever attended workshops regarding learner-centred approaches such as enquiry-based teaching?

g. Barriers

- a. What are the possibilities of improving the use of learner-centred approaches in your teaching?
- b. What are the challenges you face in involving learners actively in your teaching?

Follow-up questions

Are you employing out-of-classroom practices, for example fieldwork? Please explain.

Is the process of learning in your Geography class shaped by the needs, capacities interests of the learners? If yes, how?

Do you allow learners to draw from their existing knowledge in your lessons?

Do you include activities such as project learning, problem-based learning and collaborative learning in your Geography lessons?

Do you apply flexible and varied teaching strategies in your lessons?

Which activities do give learners that show their high level of active control over context?

Appendix D: Observation Schedule

School:

Date:

Lesson topic:

Time:

Grade:

Elements of learner-centred and enquiry-based teaching to be observed in Geography classroom.

Components	Comments
<p>Link with other knowledges:</p> <ul style="list-style-type: none"> Lesson starts with a link to learners' existing knowledge or pre-knowledge about topic from subject or other subjects Focus is on only Geography OR insights from other subjects are also integrated (interdisciplinary). 	
<p>Teaching style:</p> <ul style="list-style-type: none"> Teacher talks, uses chalkboard and learners make notes Only learners are viewed as learners OR the teacher and students learn together 	
<p>Use of the curriculum:</p> <ul style="list-style-type: none"> Teacher selects/teaches topics and sub-topics as stated in curriculum OR Combines different subtopics (not as sequenced in curriculum) to create innovative and authentic learning experiences and which develop increasingly complex ideas, skills and values 	
<p>Learning and teaching materials used. (Examples)</p> <ul style="list-style-type: none"> Are there enough materials? How are the materials used? Are the materials used to involve learners? 	
<p>Learner involvement:</p> <ul style="list-style-type: none"> Are learners passively receiving information (mainly listening and reading?) Is knowledge just transmitted from teacher to learners? OR Are learners actively involved in T&L process Are learners constructing knowledge by integrating new learning into what they already know? Are learners given opportunities to construct knowledge through gathering & synthesizing info and integrating it with general skills of inquiry, communication, critical thinking, problem-solving, etc. 	
<p>Questioning: (please record examples if possible)</p> <ul style="list-style-type: none"> Does the teacher ask questions? Are questions closed or open? Is the teacher asking? Do learners give one word answers or are they encouraged to explain and question? Is the emphasis on right answers OR are therei probing questions to help learners learn and to challenge them? What does teacher do when a correct answer is given? What does teacher do when an in correct answer is given? 	
<p>Structuring of learning: (examples if possible)</p> <ul style="list-style-type: none"> Teacher provides learners with appropriate support and guidance. Teacher creates opportunities for group/collaborative learning 	

<p>Enquiry activities:</p> <ul style="list-style-type: none"> • Do learners engage in independent research using source material in class? • Are learners exposed to out-of-classroom activities? • Are these activities guided by geographical key questions? 	
<p>Skills involved in enquiry:</p> <ul style="list-style-type: none"> • Are learners applying problem-solving skills? • Are opportunities created for critical thinking (analysis?) • Are learners expected to generate alternative solutions, strategies or ways of interpreting evidence? 	
<p>Assessment: (Please collect examples)</p> <ul style="list-style-type: none"> • Are learners involved in assessment (in setting the tasks OR in discussing the evidence afterwards?) • Are key geographical questions used to structure activities? • Desired learning is assessed indirectly through the use of objectively scored tests or exams OR it is assessed directly also through projects, performances, etc. 	
<p>Integration of teaching and assessment:</p> <ul style="list-style-type: none"> • Are teaching and assessment separate? OR • Are teaching and assessment intertwined (is assessment used to support learning)? • Is assessment used mainly to monitor learning? OR • Is assessment used to promote and diagnose learning? 	

	None	Seldom	Often
Does the teacher ask questions?			
Type of Questions Teachers asks:			
Low Order			
Middle Order			
High Order			

Geographical Key Questions used in TEACHING	Number of questions asked	Yes	No
1. What is it?.....definition/description <i>Typical examples:</i>			
2. Where?.....location/distribution/pattern <i>Typical examples:</i>			
3. Why?.....causes/contributing factors <i>Typical examples:</i>			
4. With what impact?.....consequences on humans and/or the environment <i>Typical examples:</i>			

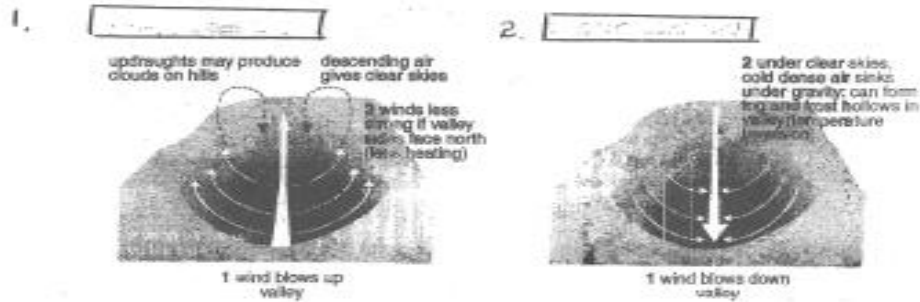
Appendix E: Classroom Activity

Class activity.

11 June 2014

Local Winds.

Grade 10A+10B.



- Name the winds 1 and 2. (2)
- For each state at what time of the day it occurs. (2)
- Describe how the wind in 2 develops. (4)

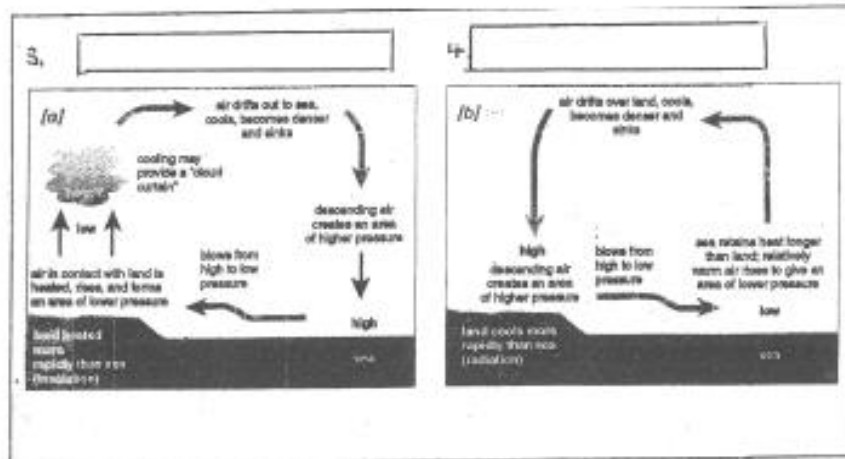


Fig 4.6i

- Name the winds 3 and 4. (2)
- State the time of day when each wind develops. (2)
- Describe how the wind in 3 develops. (4)

Appendix F: Schemes of Work

SCHEME OF WORK

SUBJECT: GEOGRAPHY		TERM: TWO :		
Grade: 10A +10B		TEACHER:		
Week	Topic Subtopic	Objective & Content	Reference:	Remarks
1	REVISION OF TERM 1 TESTS. Paper 1. Theory. Paper 2 .mapping techniques.	Review of topics covered and tested in end of term one tests. Highlighting learners weaknesses in answering examination type questions.	End of term one test papers.	
2	POPULATION GEOGRAPHY; Population terms. Population distribution, population growth,natural increase,net migration.	Defining population distribution and population density. Describing popn distribution patterns at various levels ie, global, continental regional and local scale.explaining popn distribution in space.	Excellent book 10. Chapter 5. Pp 27-28.	
3	Population growth and fertility. Birth rates ,death rates,natural increase, net migration, popn growth patterns and causes.	Define popn growth. Describe the world popn growth trends Explain rapid popn growth in LEDCs.and low popn growth in MEDCs.	Excellent book 10. Chapter 5 Pp 28-29.	

4	Fertility and mortality Birth rate, Death rate Natural increase and popn change	Define fertility and mortality Explain briefly the terms birth rate and death rate. Calculate natural increase. Explain popn change over time with reference to Namibia.	Excellent book 10 Chapter 5 Pp28-29	
5	demographic transition model –the diagram,description and explanation.popn structures and popn pyramids.	Draw and label the demographic transition model. Explain the features of the DTM. Explain population change in terms of the DTM. Describe and explain popn pyramid structures.	Excellent book 10 Chapter 5 Pp30-32.	
6	REGIONAL GEOGRAPHY. NAMIBIA- country, size,shape and position in the world .neighbouring states and physiological regions	Draw the map of Namibia. Label the bordering states State the size and recognize the shape.describe the physiological regions and label them on a map. Explain the shape and regions.	Discovering geography book 10 Chapter 6 Pp 112-115	

7	Namibia's climate, vegetation, Drainage and minerals.	Describe the vegetation zones of Namibia Explain the vegetation. describe the drainage and mineral distribution in Namibia.	Discovering geog book 10 Chapter 6 Pp115-119	
8	Namibia's farming. Factors influencing farming. Distribution of animal and crop farming in Namibia, explanation of farm.	Describe crop cultivation and animal rearing in Namibia. explain the distribution of farming activities in Namibia.	Discovering geog book 10 Chapter 6 Pp119-126.	
9	Fishing, mining, transport and tourism in Namibia.	Describe the distribution and nature of fishing in Namibia Outline the mining features of Namibia Describe the distribution of main tourist features in Namibia. Outline problems of Namibian tourism.	Discovering geog book 10 Chapter 6 Pp 127-133.	
10	Regional geography. Sacu, sadc, and economic development.	Define sacu, sadc. Outline the importance of Namibia's membership of sacu and sadc.	Discovering geog book 10 Chapter 6 Pp 137-140.	

		<ul style="list-style-type: none"> • identify simple conventional symbols on synoptic weather maps • recognize and explain high and low pressure systems on weather maps and the associated weather conditions • make simple interpretations with regard to temperature, rainfall, clouds, and general weather conditions 			
<p>Theme: 3 Ecology</p> <p>The deterioration of the Namibian environment</p>	<ul style="list-style-type: none"> • investigate the reasons for the deterioration and search for possible solutions 	<ul style="list-style-type: none"> • distinguish between natural causes and Human-made causes • describe farming methods as a cause of deforestation and desertification • describe the causes and effects of bush encroachment • explain the effect of population explosion as a world wide as well as a Namibian problem • describe pollution of the land, water and the atmosphere • suggest solutions for problems from their own vicinity, e. g. population education, environmental education, sustainable production, etc • transfer and apply this knowledge to the solution of problems in other areas. 			
<p>Theme 4 geomorphology</p> <p>Internal forces (endogenic)</p>	<ul style="list-style-type: none"> • be introduced to plate tectonics and the results thereof, e.g. <ul style="list-style-type: none"> (a) fold mountains (b) earthquakes (c) volcanism 	<ul style="list-style-type: none"> • explain the causes of plate movements • distinguish between divergent, convergent, and shear plate boundaries • recognize and locate on a map the major land forms: mid-oceanic ridges, volcanic island arcs and fold mountain ranges, deep sea trenches • explain the relationship between plate tectonics and earthquakes, volcanism and fold mountain ranges • indicate on a map the global distribution of fold mountain ranges • recognize types of folds on sketches and photographs • indicate on a map the global distribution of earthquake zones • explain the causes of earthquakes • explain the impact on of earthquakes on civilization • indicate on map the global distribution of volcanoes • draw a sketch of the structure of a simple volcano • explain the impact of volcanoes on civilization 			

Appendix G: Teachers' lesson plans

**HISTORY/GEOGRAPHY
LESSON PREPARATION FORM**

Subject: Geo
Grade: 10

Date: 19/06/14
Period: 8 10A-B

Theme and Lesson topic: Population (density and distribution)

Basic Competencies: Learners should be able to identify on a map major population clusters world wide and in Namibia and discuss factors influencing population distribution and density.

Teacher's aids: Population map of Namibia and world map.

PLANNED PRESENTATION OF LESSON

- Monitoring of home work done:
Introduction: links to previous lesson through questions
- Steps to achieve basic competencies

TEACHER ACTIVITIES	LEARNER ACTIVITIES
Why more people live in south, and windhoek while few people lives in Karas	Learners suggest reasons why people in Karungo region live along the Karungo river.
Use world map to identify area with more people and give reasons.	Learners use the map to identify places with more people and few people, and also suggest reasons why. discuss the reasons with teacher after that do correction.
Use the world map to identify places with few people and suggest reasons.	

3. Evaluation/consolidation

(Written and oral exercises, e.g. worksheets, questions, etc. From textbook, homework):

Controller's remarks

Lesson plan

Class: 10Bdate: 11/06/14time: 6:45 - 7:25Topic: Local windsAspects: sea and land breezesMountain and valley breezes**Objectives and Pupil activities:**

- learners should be able to identify the types of breezes namely land and sea; mountain and valley.
- explain how land & sea breezes as well as mountain and valley breezes form.
- learners discuss in pairs the questions presented to them and demonstrate their findings on the chalkboard.

Resource materials:

- teacher prepared handout.

Lesson delivery:

Introduction Recap of previous lesson on pressure systems and winds on a large scale.

Development:

Teacher gives a handout showing different breezes which learners need to identify in groups/pairs. Learners make their write ups and present this to the class in turns.

Conclusion Recap of learnt concepts.

Introduction of the concepts to be learnt in the next lesson.

Assignment: No written assignment given to learners

Appendix H: Worksheets/past examination papers

141 / 20

Geography Test
Grade 10
Name: _____ Marks: 20
Date: _____

Complete the following sentences below about contour landform and contour slopes.

1.

a) Contour lines are far apart. 1)
gentle slope

b) Contour lines are close together. 1)
steep slope

c) Contour lines are far apart at the top and closer to each other at the bottom. 1)
convex

d) Contour lines are close to each other at the top and far apart at the bottom. 1)
concave

e) Contour lines bend out-ward and point in the direction of decreasing height. 1)
spur

f) Contour lines bend inward and point in the direction of increasing height. 1)
valley

2.

a) What is the difference waterfall and cliff. 2)
waterfall - Contour lines touch one another in a valley
Cliff - Contour touch but no valley

b) Shortly explain saddle. 2)
∩

Study the contour map, Figure 6, below and answer the questions that follow

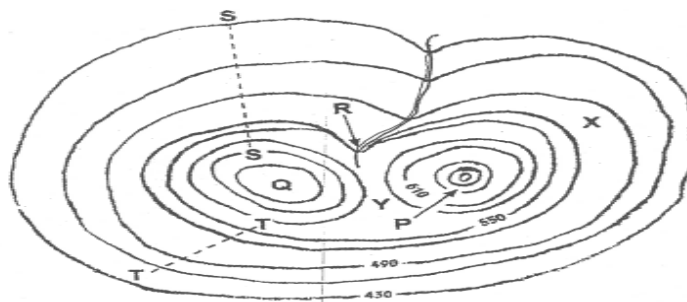


Fig. 6

- (a) Identify the landforms marked P, Q and R on the contour map.
P Conical hill a flat-topped hill
R waterfall
- (b) State the types of slopes shown as S --- S and T --- T.
S --- S Concave slope
T --- T Terraced slope
- (c) Calculate the vertical interval of this map.
60m
- (d) On point X is a 4-metre-high tree. Will the tree be visible from point Y? Give a reason for your answer.
No - because there is an object
- (e) Draw correctly in, on Fig. 6, a river visible on the contour map, and draw arrows to show direction of water flow.

Practical exercise

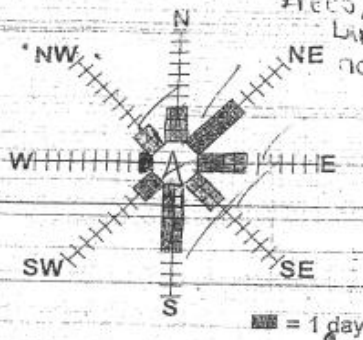
Grade: 10B

(e) Which place has the most calm days?

..... N (1)

(f) Which place would be the most suitable for the building of a wind-driven power station? Give a reason for your answer.

..... on an open area ^{away} from trees, on the top of the building houses to obtain accurate weather.



A 8 of Uhuvel! 10

Direction of Wind	N	NE	E	SE	S	SW	W	NW	Calm
Number of days	3	5	4	3	6	2	1	2	4

3.2.1 What name is given to the diagram above?

wind rose ✓

(1)

3.2.2 For how many days the wind was not blowing from any specific direction

4 days ✓

(1)

3.2.3 What is the most common wind during this month?

$3+3+2+2 = 10$ $\frac{10}{4} = 2.5$ ✓ South wind

(1)

3.2.4 Use the data in the table to complete the diagram shown above.

(6)

What instrument was used to obtain the data/information in Fig. 5?

wind vane ✓

(1)

Which wind was the most dominant (prevailing) during July?

S ✓

(2)

(1)

3. Complete the diagram in Fig. 5, using the information provided.

(4)

(1)

Worksheet / Post-Exam Paper

- 6 (a) Study the map in Fig. 13 below which shows the main vegetation regions of Namibia, and answer the questions.

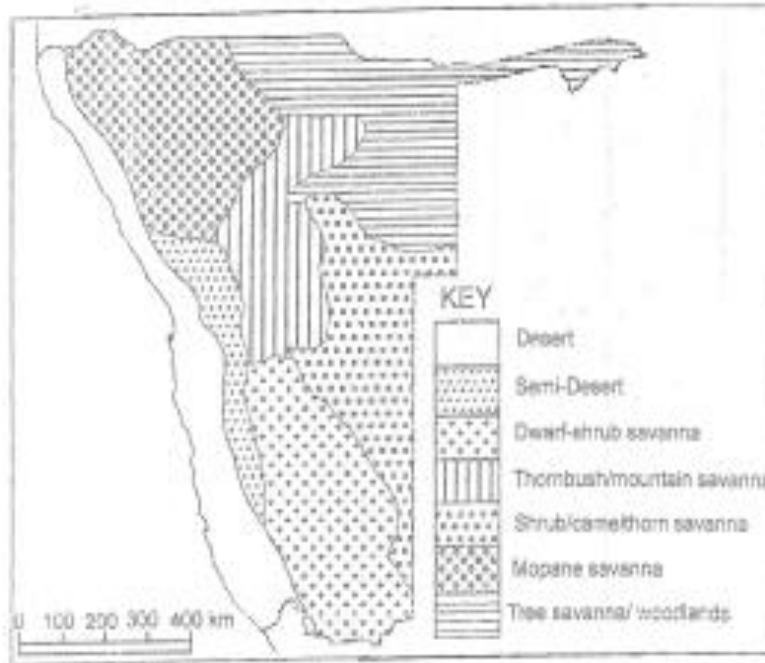


Fig. 13

- (i) Name one type of plant that is well adapted to the dry conditions of the Namib Desert. [1]
- (ii) How are these plants adapted to the dry conditions of the Namib Desert? [2]
- (iii) Which factors contribute to the extremely dry conditions at the Namibian coast? [2]
- (iv) What type of vegetation, according to Fig. 13, is mostly found in the northeastern part of Namibia? [1]
- (v) Give one reason why the densest vegetation is found in the northeastern part of Namibia. [1]
- [7]
- (b) Choose either beef cattle or karakul sheep. Write down the name and answer the questions.
- (i) In which vegetation regions in Fig. 13 is it mostly found? [1]
- (ii) Describe two factors which negatively affect the type of stock farming you have chosen. [2]

[3]
[10]

3

(b) Study the wind vane in Fig. 2 and then answer the questions.

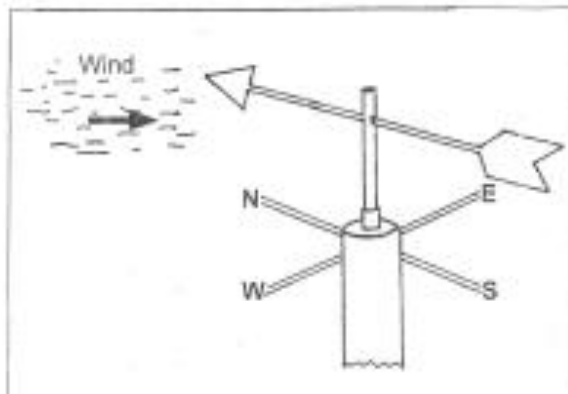


Fig. 2

- (i) What is the purpose of the arrow on the instrument in Fig. 2? [1]
 - (ii) Give a term to describe the condition when the wind blows from a specific direction most of the time. [1]
 - (iii) Describe the accurate position at a weather station where the wind vane must be located. [2]
- [4]

(c) Study diagrams Fig. 3A and 3B below and answer the questions.

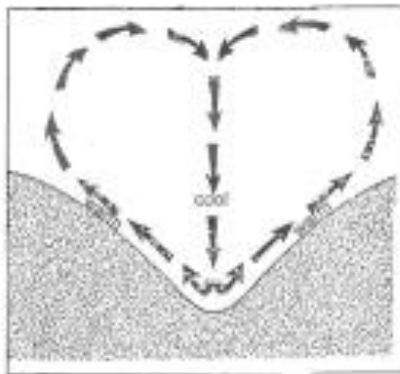


Fig. 3A

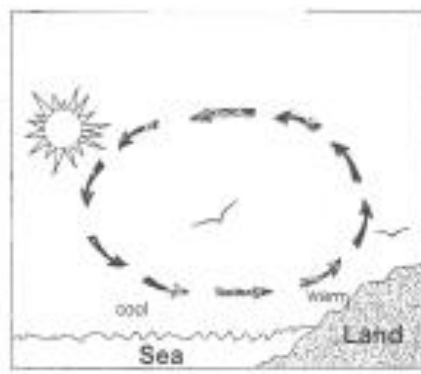


Fig. 3B

- (i) Identify the breeze in Fig. 3A. [1]
 - (ii) State whether this breeze blows during the day or during the night. [1]
 - (iii) Fig. 3B illustrates a sea breeze. Use Fig. 3B to explain how a sea breeze is formed. [4]
- [6]
[15]