INITIATIVES TAKEN BY TEACHERS TO IMPROVE THE LEARNING OF PHYSICAL GEOGRAPHY IN GRADE 12: THE CASE OF SECONDARY SCHOOLS IN MAMABOLO CIRCUIT, LIMPOPO PROVINCE, SOUTH AFRICA

by

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DECLARATION

I declare that the **"Initiatives taken by teachers to improve the learning of Physical Geography in Grade 12: The case of Secondary Schools in Mamabolo Circuit, Limpopo Province, South Africa."** hereby submitted to the University of Limpopo, for the degree of **Master of education in curriculum** has not previously been submitted by me for a degree at this or any other university; that it is my work in design and in execution, and that all material contained herein has been duly acknowledged.

 I declare that the study titled **"Initiatives taken by teachers to improve the learning of Physical Geography in Grade 12: The case of Secondary Schools in Mamabolo Circuit, Limpopo Province, South Africa."** Is my own work and that all material contained in this study has been acknowledged by means of complete references.

16.04.2022

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ABSTRACT

The aim of this research is to explore initiatives taken by teachers to improve the learning of Physical Geography in Grade12 among the schools in Mamabolo Circuit, Limpopo Province, South Africa. This research was mainly qualitative in approach. A sample of 9 of Geography educators was purposively sampled in this study. The study discovered that educators need support from the Department of Education (DoE) critically when it comes to the improvement of teaching of Geography for quality results. The researcher established that the schools are not taking Geography as a subject seriously therefore, the educators teaching Geography are not considered as specialised. Therefore, this study recommends to the DoE, schools and educators to consider Geography as a subject of significance.

LIST OF ABBREVIATIONS

DBE	Department of Basic Education
DoE	Department of Basic Education
NSC	National School Curriculum
NSC	National Senior Certificate
TTG	Thinking Through Geography
U.S	United States
USA	United State of America
ECZ	Examinations Council of Zambia

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CHAPTER 1: BACKGROUND AND MOTIVATION

1.1 BACKGROUND AND MOTIVATION OF THE STUDY

Destitute learning leads to poor performance. In fact, poor performance is an indicator of poor learning and vice versa (Mthembu, 2014). It should be noted that there is a very thin line between learning and performance. Amongst the several subjects that are offered in South African secondary schools, Geography is one subject where learners are underperforming (Stockwell &Whiteley, 2014). This is despite on-going professional programmes that are offered throughout the province with the purpose of re-training teachers. The problem is that learners are not performing well because of teaching and learning challenges (Wieman, 2012).

Geography examination question papers for Grade 12 are set out of 300 marks, and consist of two papers, that is, Paper 1, which carries 225 marks, and Paper 2, which carries 75 marks (Department of Basic Education, 2016). Paper 1 consists of the following sections: "Climate, Weather, Geomorphology, Rural and Urban Settlements, and Economic Activities of South Africa" (Department of Basic Education (DBE), 2018). Paper 2 consists of "Map Calculations and Techniques, Application and Interpretation and Geographical Information System" (Department of Basic Education, 2016). This study focused on Climate, Weather and Geomorphology, which relates to Physical Geography, and forms part of Paper 1. Looking at the average marks in Geography for the past 4 years, learners appear to be struggling, especially in Paper 1(National School Curriculum (NSC) Diagnostic Report, 2017).

In 2015 Climate, Weather and Geomorphology results were the same as 2017 at 49%. In 2016 the results were 45% and improved to 48% in 2018. The results for Rural and Urban settlements, and Economic activities of South Africa were 54% in 2015, dropping to 49% in 2017 and improved to 51% in 2018(Diagnostic Report, 2018). Because the diagnostic report identified sections where learners do not perform well meant that these sections needed to be improved (Kgetjepe, 2018). Hence, the researcher wanted to find out initiatives taken by Geography teachers to enhance the learning of these sections.

As stated in the Department of Education DoE (2010), 30% is a pass mark, but it becomes a challenge when learners have to further their studies (Maree, 2010). The same problem of poor learner performance has been identified in other subjects such as Mathematics and English (Chung, 2016). "More concentration has been given to such subjects than to Geography despite the poor performance of learners in the subject" (Adesemowo, 2005).

Studies have revealed that there are several reasons why learners do not perform well in some sections (Mbugua, Muthaa and Kibet, 2012). Some research studies include parental involvement, commitment of teachers, positive attitudes of learners towards Geography, under qualified teachers, low teacher morale and the nature of the subject (Kowke, 2012; Maree, 2011). Research findings also show that there are other aspects that add to poor learner achievement, such as educators going to strike, or to class unprepared and late coming (Mkandawire, 1999; Mthembu, 2014; Khumalo, 2010).

The Department of Education has taken some initiatives of ensuring that Geography teachers attend workshops, and curriculum advisors visit schools on a regular basis, especially underperforming school (Motshekga, 2018). There are also television and radio shows sponsored by the Department of Education (DOE, 2018). Schools are going extra miles by providing morning and afternoon lessons, outsourcing and ensuring that learners attend winter schools. In some schools, each section is being taught by one teacher. For example, a teacher will only teach Geomorphology from Grade 10 to 12 (Dube, Marimuthu, Mthembu, Ranby &Vlok, 2011).

According to Mthembu (2014), there are a lot of measures taken by Limpopo Department of Education, which involve schools and parents to participate towards eradicating poor performance in Geography (Leepo, 2015). One of the reasons why learners are not performing well in Geography is that teachers are not taking initiatives and are not using strategies formulated by experts to improve their teaching and how learners learn Geography in relation to what the performance reflects nationally (Dube, 2011).

There are several studies on Geography as a prerequisite (Rosenberg, 2017). Some look at the role of Geography as a subject (Canadian Council for Geographic Education, 2017), and others focus on learners' performance in Geography (Camera, 2015) and on the causes of poor learner performance (Rilwani et al., 2014).But when the researcher looks at previous research findings, there are few efforts on how teachers support learners It is against this background that the researcher felt that one other contributing factor could be the fact that teachers do not take initiatives to help learners to improve despite the observation that their performance is not improving. The researcher wanted to explore initiatives taken by teachers to improve the learning of these sections in Geography that have been revealed in the diagnostic report as burdensome areas for pupils. The researcher is of the view that how teachers teach influences learning (Shiovhe, 2018), and that. If they take initiatives to help learners learn the sections that they struggle with, their performance in Geography will improve (Tamanna, 2019).

This study, thus, seeks to explore the initiatives taken by teachers to improve the knowledge in grade 12 Physical Geography in Mamabolo Circuit of the Limpopo Province, which is in a semi-urban area.

1.2 PROBLEM STATEMENT

Learners are expected to learn all prescribed sections in their grade for them to perform well in all school subjects (Shiovhe, 2018). Similarly, for learners to perform well in Geography, they have to learn all sections, but the annual analysis of results reveals that for the past four years, learners have not performed well in Paper 1(DoE, 2019). Learners in Mamabolo Circuit are not doing well in Physical Geography, which constitutes Climate, Weather and Geomorphology. This is a problem because it affects their overall performance in Geography which, in turn affects the overall performance or percentage of the National Senior Certificate results (Gondo, 2017).

When analysing Geography Grade 12 final year results, indications are that learners in Mamabolo Circuit do not do well in Physical Geography that is Climate, Weather and Geomorphology. Results in Geography, especially Paper 1 or Physical Geography (Climate, Weather and Geomorphology) has declined in the past few years

(DoE, 2019). Several factors have been mentioned as possible causes of this decline. However, few studies have looked at teachers' contribution, that is, how they teach (Maree, 2011).

It seemed as if teachers were not taking initiatives to improve the learning of problematic sections. This was clearly proven by poor learners 'results in Climate, Weather and Geomorphology (Diagnostic Report, 2018). Studies show that factors include teacher specialisation, resources, institutional leadership and planning and enrolment capacities. Other factors were mentioned in the background (Gondo, 2017).

Some learners refuse to take Geography as a subject; this is proven by the decline in the yearly school admission (Dube, 2011). There is no tangible solution by teachers to address the problem. As shown in the background, performance in Paper 1 has been poor for the past four years (Limpopo Department of Education Diagnostic Report, 2017). The fact that learners are refusing to take Geography as one of their subjects has resulted in the department taking certain initiatives.

All stakeholders are trying their best to improve the learning of Geography, but the results do not improve (Muthaa, 2012). Learners continue to perform poorly in these sections irrespective of measures that have been taken (Krebs, 2018). The assumption is that teachers' efforts and initiatives to improve the teaching and learning of Geography are still minimal.   The researcher looked at initiatives taken by educators in four secondary schools in Mamabolo Circuit, Mankweng Region of Limpopo Province, South Africa. These four schools have been identified as underperforming schools in Geography (Limpopo Department of Education Diagnostic Report, 2017).

1.3 PURPOSE OF THE STUDY AND THE RESEARCH QUESTION

1.3.1 Purpose of the study

The aim of this research is to look initiatives taken by educators to improve the learning of Physical Geography in Grade12schools in Mamabolo Circuit, Limpopo Province, South Africa.

1.3.2 Research questions

Fundamental research question: What are initiatives taken by educators to improve the learning of Physical Geography in Grade12?

Sub questions:

1. What initiatives are taken by teachers to improve the learning of Physical Geography in Grade 12?
2. How will teachers improve the learning of Climate, Weather and Geomorphology?
3. Why is it that Grade12 physical Geography learners' results are still not improving amid initiatives that have been taken?

1.4 SIGNIFICANCE OF THE PROPOSED RESEARCH

The Department of Education is prone to gain greatly amid recommendations of the survey since the initiatives to be taken by teachers to improve the learning of Physical Geography in Grade 12 will highlight the areas that need to be given more attention in the teaching and learning of this subject (Hinde, 2015). In addition, this study will be beneficial to other researchers as well and could be of help in building new ways in which learners can be taught Geography to help them learn (Fisher and Binns, 2016). Teachers and learners will also benefit from this study because when learners pass Grade 12 well, they will stand a better chance of being employed and the quality of life in the communities will improve.

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 INTRODUCTION

In unit one the study covered backdrop issues and gave the snapshot of literature review. In fact, the previous chapter is giving the introductory concepts of the whole research. In this unit the crucial issues that will be discussed include (1) conceptualizations/meanings of poor learner performance, (2) causes of poor learner performance, (3) the role of geography and (4) initiatives towards improving learning of Geography.

The works of Wheeler (2018), Mansfield (2017), Camera (2015), Wilmot and Dube (2015) and Dzimiri and Marimo (2015) were reviewed. This chapter deals with a review of the literature related to the area of my study, looking at the following aspects: Causes of poor performance, the purpose of Geography as a subject in the syllabus, learners' learning in Geography. The literature review is important because it highlights what was done before. From the review of literature identified gaps will be filled (Galvan, 2006). Articles on learning, performance and initiatives in secondary schools across the world, policy documents from the Department of Education in Limpopo Province, South Africa will be reviewed. In the review unit, factors that affect learning negatively, contributing to poor performance in schools will be critically analysed.

2.2 LEARNER PERFORMANCE IN GEOGRAPHY

Studies conducted in the United State of America (USA) shows those teachers who are not knowledgeable about their subject encounter challenges because pupils can quickly see their weakness and will continuously pose a threat to their level of undestanding which will affect the teacher's self-esteem which will intern affect learning (Saiduddin, 2003). Even so, "some researchers state that it is not experience and content knowledge alone that guarantee good performance, but also the ability of the educator to capture the attention of the young minds" (Dhurumraj, 2013), "the ability to probe them to think" (Izquierdo-Aymerich and Aduriz-Bravo, 2003), and "the ability of the teacher to take into consideration learner conceptualization in order to assist the learners to integrate existing concepts about Geography with new concepts being taught" (Hewson & Hewson, 2015).

Generally, the performance of Grade 12 learners is very critical to the nation. In rural South African Schools, improvement in learning is expected to pick up on other subject areas like indigenous languages. This study focuses on Geography because it has been declining drastically as compared to other areas. "Literature shows that knowledge of Geography among Canadian learners is not satisfactory, especially when compared with nations such as Japan, the United Kingdom, Australia and Germany" (Mansfield, 2017). Almost entirely, the Geography pass rate in high schools dropped through the years and Canadian children fail to read maps or find provinces, regions, cities or important physical features. "This has led to the poor performance of learners in this subject" (Mansfield, 2017).

Similar studies were conducted in America. "These studies revealed that it is not a mysterious that United States learners are terrible in Geography, and have been for some time" (Camera, 2015). "Nearly three-quarters of eighth graders tested below proficiency levels in Geography in the 2014 National Assessment of Educational Progress, also known as the Nation's Report Card – and that is almost exactly the same results as in 1994".

"It is also a similar case when looking at prior NAEP assessments of fourth- and 12th graders, where approximately 80% of whom tested below proficiency levels in 2010. Now there is a better understanding for why this might be. A new report from the Government Accountability Office found that in more than half of social studies, teachers spend 10% or less of their time on Geography. Social studies are umbrella subjects under which Geography is taught along with things like history, civics and economics" (Camera, 2015). Similar studies have been conducted in Nigeria, where learners are not only performing badly, but are also refusing to take Geography as their learning subject (Rilwani, Akahomen, Dora and Gbakeji, 2014). "This dwindling level of learners' retention in each subject or course of study is often termed attrition" (Akintade, 2011).

Geography learners in Nigeria in the senior secondary certificate examination level were exposed to high level of attrition. As shown by Akintade's (2011)'s study at Ilorin, this is proven by the drop in annual enrolment of geography pupils and how they did not take interest In the subject. This is fully at conflict with findings by Adeyemi (2009), who observed that more "learners opt for Geography from the list of available optional

subjects in Botswana". "Among the various reasons that have been adduced to be responsible for this decline is the general lukewarm attitude of learners to the study of Geography at secondary school level" (Olanipekun, 1988).

In South Africa, studies were conducted on levels of performance in national senior certificate Geography examination, and the findings were like those of Botswana (DBE, South Africa, 2014). Enrolment increased from 2011 to 2013 as well as the performance of Geography in matric. "Despite this positive upward trend, only 53.4% of Grade 12 learners achieve 40% and above. Contrary to the national trend, there has been a downward trend in performance in the Eastern Cape in the past 3 years" (Wilmot & Dube, 2015). To summarise learners' performance, according to the literature, most learners seem to perform poorly in Geography. However, according to Egu, Nwuju and Chionye (2011), there is some probability that there are other causes.

2.2.1 Poor Learner Performance

"Learner performance in this study is used to refer to the learners' scores in the Grade 12 National examination, which marks the end of secondary education" (ECZ, 2013:1). "Learner performance also relates to how learners respond to the given assessment items in the National examination based on the set standards" (ECZ, 2014: VI); in this situation, the Grade 12 examinations. SiqueiraI, & Juliana Gurge-GiannettiII (2011:79) clarify poor school performance (PSP) "as a school achievement below the expected for a given age, cognitive skills, and schooling". The definition is used as it applies to the measure of scores in Matric Grade 12 National Senior Certificate (NSC), South Africa.

2.2.2 Causes of Poor Learner Performance

Studies across the world reveal the following as factors that are related to poor learner performance in schools: socio-economic status(Turgut, 2018), poverty (Albret, 2018, Stright et al. 2002), cultural differences (Fylkesnes, 2018), instability in homes (Adell, 2002), substance abuse(Attah, Baba, and Audu, 2016), teenage pregnancy(Barmao, Nyaga, and Lelan, 2015), negative role modeling (Turan, 2019), "Research on poor academic performance was conducted on African Americans in 2003 in primary and high schools as well as colleges" (Saiduddin, 2003). It was found in a study that

poverty, cultural differences, unstable homes, drug abuse and teenage pregnancy are factors that have an impact on poor academic performances. "African American learners are exposed to a similar negative environment at home as many learners in South Africa who also come from poor family backgrounds" (Kulkarni, 2005). "In South Africa shows that the family background is the most important and weighty factor in determining the academic performance of learners" (Adell, 2002). Parents and local communities are encouraged to actively participate in the education of their kids in educationally progressive countries.

2.2.2.1 Negative Role Modelling

"The exposure of the youth to negative role models from an early age contributes not only to poor performance but also to learners dropping out. Hence, research has found that children from intact homes were less likely to repeat a school grade even when socio-economic status was removed statistically" (Turan, 2019). "Learners from unstable families often become emotionally disturbed and therefore tend to under-perform" (Adell, 2002). "In South Africa, the parents who abuse substances could not model the correct behaviour or be of any assistance, let alone motivate their children. Unpredictable home environment includes loss in the family through death, divorce, separation, or substance abuse" (Maude, 2010). In support of this idea, "it has been found that internationally, poor academic performance is a problem that manifests itself not only in poor communities but also in countries that are classified as developed" (Turgut, 2018). "The ability to control one's environment is directly related to self-esteem. Since African Americans had little control over their educational environment and perceived their educator's expectations of them as low, they often performed poorly" (Albret, 2018). "In turn, their underperformances then reinforced their negative self-image. Where such assistance does not occur due to parents being migrant workers, learners struggle to adjust to school requirements while their academic performance is negatively affected, preventing them from achieving required results for university entrance" (Wilson and Black, 1978).

2.2.2.2 The Family's Socio-economic Status

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Studies conducted in Germany reveals that children from wealthier families consistently outperform children from poorer home environments (Chinapah1997). "Not only must the home environment be emotionally supportive, as well as sympathetic towards the learning process in an intellectual way (Turgut, 2018 and Stright et al. 2002), but there are physical aspects to be considered as well, such as study space and time". "A number of studies show that the way in which parents structure their children's learning behaviour in the home can have a major influence on the way in which the same children will behave in a classroom" (Stright et al., 2002). A similar study conducted in Spain indicate that the educational level of parents is among the key factors that greatly influence learner performance (Castejon and Perez,1998). "The learner's perception of family support in educational matters directly affects performance, most likely the mother's level of education plays a pivotal role because it influences the children's performance indirectly" (Hicks, 2007). "Those learners whose parents are not adequately literate are disadvantaged because these days' parents are required to assist their children with their assignments and projects that are supposed to be done at home" (Bonnet, 2008).

Marchesi and Martin (2002) "conducted research regarding social class in Spain and the results revealed that one's results and expectations for the future are better if one belongs to a higher social ladder". "Research conducted in America equally indicates a high correlation between low school achievement and socio-economic background where most of the researched families are classified in the lower economic brackets, with the highest poverty and unemployment rates. Education failure is legitimized by inherent inferiority, where there is a high illiteracy rate, poor hygiene, and lack of middleclass child rearing practices, especially among parents, all of which are viewed as a manifestation of poverty" (Cummins, 1994).

"Studies conducted in India shows that there are many reasons for learners to underperform at school such as medical problems, below average intelligence, specific learning disability, emotional problems and even poor socio-cultural home environment" (Karande and Kukani, 2005).

2.2.2.3 Teenage Pregnancy and Marital Status

Several female learners in South African school fall pregnant within their teens. This affects their performance drastically. Barmao, et al (2015) "assert that teenage pregnancy affects the thinking processes of the girl child this in turn affect her performance in her studies". "Studies conducted in Australia shows that the marital status of being either single, married, divorced, or widow, the parents' social class in terms of their income categories of lower, middle- or upper-income class all impact on self-concept and the learning process of learners A stigma is often attached to separation and divorce, affecting the learner's academic performance negatively" (Adell, 2002).

2.2.2.4 Substance Abuse

Cunningham (1994) "It was found that 94% of high school learners at Pine Ridge Reservation have used alcohol". He further showed that alcohol consumption in teenage years is the new normal as both genders drink daily and that disarray their full attention and level of achievement at school. Learners abusing alcohol in South Africa needs serious attention as liquors stores are near schools in the rural areas.

2.2.2.5 Linguistic challenges

"The participants in the study conducted by Malan, Ackerman, Cilliers and Smit (1996) believe that language can influence learning and they see it as a problem, because it causes in adequate understanding of subject matter related to reading and comprehension skills, when the learners' mother tongue to the language in which learning is required" (Mostert, 1998)

2.2.2.6 Lack of Qualified Geography Teachers

Geography is not the only subject where learners are under performing, "In the literature it is indicated that South Africa continues to face numerous challenges when it comes to science teachers, the first being that science teachers are leaving the education sector each and every year" (Modisaotsile, 2012) "simply because of the

low salaries, poor infrastructure and resources, and excessive workload" (Hughes, 2012). As in SACE (2010) it shows that science teachers are leaving the Department of Education due to insufficient career elevation. "Another challenge that has been identified is the retirement of experienced teachers" (Hughes, 2012). "This has led to the lack of mathematics and science teachers in South Africa" (SACE, 2010) and "to the employment of under-qualified science educators resulting to poor performance of learners in Mathematics and science: (James, Naidoo & Benson, 2008). Similar studies were conducted in Nigeria regarding Geography.

2.2.2.7 Lack of resources as a factor in learner performance

Enough teaching staff and resources are important factors for effective teaching and the development of all school subjects. A study conducted by Rilwani et al (2014) has revealed that many schools in Esan West Local Government Area, Edo State, Nigeria have only 1 Geography teacher. This leads to poor performance of learners due to lack of teaching staff (Chionye, 2011). Okunrotifa (2008) "quality of teaching offered in their schools is also a major problem". "Teachers' knowledge plays a significant role in the classroom as it affects the choice of appropriate strategies during the teaching process" (Zarei and Sharifabad, 2012). Similar researches were conducted in Zimbabwe. The findings show that the shortage of resources and the recruitment of under qualified teachers contribute to poor passes rates in the district (Dzimiri and Marimo, 2015).

2.2.2.8 Learner expectations

"Learners' expectations may affect their performance and this may or may not relate to parents'" (Bester and Swanepoel, 2000), or "teacher expectations" (Herman& Tucker, 2000). "The notion of expectation is also directly related to the notion of self-concept or confidence" (Madolo ,1995, Fernandez, 2014). "The realism or otherwise of these expectations can have a profound effect on continuing achievement if learners expect to perform well and then perform badly, this can have negative results. It may well have a demoralising effect and bring a halt to further effort, as contributes to a low level of self-concept" (Madolo, 1995)

2.2.2.9 Lack of Content and Fundamental Knowledge

According to the Department of Education South Africa (2014), irregular workshops, conferences, in-service training, inadequate instructional materials in teaching, lack of incentives, apathy among educational leaders and policy makers as well as learners' attitude toward learning and the learning environment are some of the problems that cause poor learner performance. According to the DBE South Africa (2014), "Grade 12 learners lack content and fundamental map work knowledge because these issues are not foregrounded by teachers".

Literature also reveals that budget for Geography textbooks is also a problem, especially in rural schools of Limpopo Province, South Africa (Erasmus, 2016). "Shortage of textbooks means that learners are not being exposed to texts and graphics; they are not learning to decode information presented in different forms, but rely instead on teachers' notes", (section 27 representatives), Butho and Mpofu. A similar study conducted in Philippines shows that lack of textbooks results in poor performance of learners (Roble, 2006). "The negative attitude towards learning could result in learners performing poorly preventing them from obtaining required results for university entrance" (Mullins, 2005). In the section that follows I deliberate the function of Geography in the school curriculum.

2.3 THE ROLE OF GEOGRAPHY AS A SUBJECT IN THE SCHOOL CURRICULUM

In this unit I discuss the role of Geography in the school curriculum within the context of South Africa and beyond. I focus on human and physical geography, as key aspects related to Geography in the school curriculum. "The National Curriculum Statement for Geography Grades 10-12 states that the purpose of Geography in the Further Education and training band is to acquire, arrange, and to use Geographic information and to develop tools and skills to interpret, analyse and make judgments based on the information gathered and observed" (DBE, South Africa, 2014).

2.3.1 Providing Essential Knowledge about the World

"This idea is fundamental in school Geography and is often summed up by the statement: 'Geography matters!' While many geographers search for regularities to make sense and meaning of the world, and study the environmental, socioeconomic and political processes which produce and change these characteristics, they are also likely to study how the outcomes of these processes vary from place to place" (Ozturk, 2010). "Each place has different characteristics, and the interaction between these unique characteristics and general processes produces differences between places is also vital to the design of effective public policies. One size does not fit all" (Alkis, 2010).

"Geography's distinct contribution to the school curriculum is that it teaches students essential knowledge about the world and their own place, contributes to their personal development, equips them with a unique range of specialize skills, develops a specifically Geographical way of understanding, and issues that are essential for informed citizenship" (Maude, 2015). "Without Geography in the curriculum there would be some major gaps in the knowledge, capabilities and understanding of Australian learners. Geography is the investigation of the places that makes up the world d. places are specific areas, this statement on the contribution of Geography to education starts with the emotion rather than with knowledge or skills" (Maude, 2015).

"The distinctiveness of Geography's contribution to the school curriculum is that it teaches students essential knowledge about the world and their own place that other subjects don't, contributes to their personal development, equips them with a wide range of skills, develops a specifically geographical way of understanding, and examines important questions and issues that are essential for informed citizenship and are not studied in other subjects" (Scott and Barratt, 2007). "Without Geography in the curriculum there would be some major gaps in the knowledge, capabilities and understandings of the world" (Clifford, French and Valentine, 2010).

2.3.2 Provide a Link Between the World and Other Learning and Life Domains

Geography informs and is related to several other subjects in the school curriculum. It informs history by locating places where events were taking place; and it informs economic subjects by telling economists and managers of natural investments about mines and minerals. The branch of human Geography would inform on population and

settlement which will be very important for other survival decisions of life (Bonnets, 2008).

Overall, "Geography provides a conceptual link for the children between school, home and the world beyond" (Canadian Council for Geography Education, 2017). From this statement, one could see that it is imperative that Geography should be improved at all costs (Nge'no 2015). Initiatives and strategies to improve the learning of Geography must be identified and employed.

2.3.3 Nurturing the Innate Curiosity about Nature in Learners

"Many Geography teachers, especially those involved in primary school education stress the vital importance of nurturing and building on the innate curiosity of children places and their sense of wonder at a diversity and beauty they are about to explore" (Gill, 2007). "Through the exploration and study of places throughout the world learners can develop a Geographical imagination, defined as the ability to understand why people in other places think and behave in the way they do" (Goddard, 2007).

2.3.4 Gives Understanding of Demographic, Economic and Political Changes of the world

"Geography teaches global knowledge meaning it gives learners knowledge of the world. Studies conducted in Germany shows that Geography helps learner to understand the changes of demographic, economic and political structure of the world" (Reinfried, 2006). "It investigates the effects of globalization on German places, including their own and explores how different places have responded differently to similar global processes" (Muller, 2010). Similar studies were conducted in Asia, which reveals that "Geography can help learners to understand a range of global issues, such as international migration and its consequences, pressures on global water supplies, climate change, world cities, global food production and consumption, and international geopolitical conflicts over resources, ethnicity, ideologies and borders" (Young, 2010).

According to Bonnett (2008), "Geography teaches learners about places and countries throughout the world, as a foundation for understanding other peoples and cultures and international events and trends he emphasis that to study Geography is to study

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the world, both near and far". At one level this requires looking at the world. "This includes an investigation of the changing global distribution of population, economic activity, and political influence; the increasing integration of national economies; and a variety of global issues" (Wang, 2004).

According to a study conducted by teachers at University of Melbourne (2010), "Geography has historically been the subject that teaches learners about the main regions, countries and cities of the world". "A geographical perspective enables learners to study world regions, individual countries, regions within countries, and specific cities. It also means that different strategies and policies may be needed for different places" (Reinfried, 2007).

2.3.5 Support the Interrelationships Between the Biophysical Environment and People

"Geography develops an understanding of the interrelationships between the biophysical environment and people" (Lane, 2011). "Geography teaches learners about the resources and services that the biophysical environment provides to support their life. They learn how these are produced and maintained by environmental processes, such as the hydrologic cycle. They explore the opportunities and constraints that these resources provide for human life and economic activity, looking back in history as well as forward into the future" (Lane, 2015). "They explore the different ways people have perceived, managed and used these resources and services, and how they have changed them through this use" (Hoz, 1990). "Where these resources are being degraded, learners investigate the causes and consequences of degradation, and integrate environmental explanations with demographic, economic, social and political ones" (Leat, 2001).

"This idea is also central to school Geography and represents a long-standing tradition in the discipline. One of Geography's strengths is that it views the biophysical environment as the home of humanity and the resource base that sustains our lives and economies" (Schuler, 2004). "This means that learners should learn at least as much about soil productivity, scenic quality, attractiveness of climates, ecosystem services and the sources and variability of water resources as they learn about soil-forming processes, landforms, climate classifications, ecosystems and the hydrologic

cycle" (Klaphake, 2001). "They should also examine both the opportunities for exploitation that environments provide, and the constraints that they set, for economic development, population growth and human activities" (Leat, 2012). Geography also helps with electronic communication. For instance, "many Australians have stronger links with places in Europe that they have with much nearer places in Southeast Asia. These trends provide a fertile ground for geographical studies of cyberspace, virtual communities, and the consequences of the digital divide in which and between nations" (Harrison, 2012).

2.3.6 Providing a holistic and an integrated understanding of phenomena

"A study conducted in the United State of America shows that Geography teaches holistic thinking" (Ritter, 2012). "Geography attempts to achieve a holistic and integrated understanding of phenomena. It draws on knowledge from sciences, the social sciences, and the humanities, and integrates them through the discipline's three perspectives of place, environment and space" (Glasmeier, 2012). "This helps learners to see the connections between the more specialized subjects that they may be studying, and assists cross-disciplinary learning" (Poole, 2011). In addition, "they learn to become open to a wide range of ways of understanding and explain the phenomenon or problem being studied" (Terry, 2011).

"Geography has a long tradition of attempting to understand how a wide range of different processes and phenomena interact," (French and Valentine, 2010). "This integrative tradition is an important contribution to broadening the education of young Australians and helping them to gain a more holistic understanding of their world. In studies of the biophysical environment Geography complements science by investigating a wider range of relationships and interactions and integrating scientific knowledge with contributions from the social sciences and humanities" (Young, 2011). For example, "in studying deforestation school Geography not only includes an investigation of the effects of land clearance on vegetation, soils, hydrology, erosion, sedimentation and local climate, but also on local economies and communities" (Barratt-Hacking, Scott & Barratt, 2007; Catling& Willy, 2009; Martin, 2006)

Similarly, "in the study of drought the science curriculum investigates the causes of low rainfall and explores the ways science can be used in the management of drought

events" (West, 2006). "Geographers, on the other hand, also examine the different and changing ways that drought is perceived and defined (as droughts can be meteorological, hydrological, agricultural or socioeconomic), the role of human activities in this impact, and the policy debates about how these impacts should be managed" (Spencer, 2005). "In relation to deforestation, Geography examines the causes (which are varied), the differences between world regions (which are considerable), and the management policies propose" (Maude, 2009)

"Geography's holistic integration of elements of the natural sciences, the social sciences and the humanities can help learners to see the connections between the various subjects that they are studying. West's study of students' conceptions of Geography found that they clearly identified this role of the subject, with comments such as 'I can just make links between things, just combine it together', and 'it helps with other subjects as well" (West, 2006). "West concluded that Geography is seen in terms of its immediate relevance to other subjects. Learners observed the advantages of Geography's apparent transdisciplinarity for studying other subjects. This clarifies and synthesizes the connectedness between the material introduced in a range of subjects'" (West, 2006).

"Studies conducted in South Africa by Holmes shows that Geography studies the real world, and its futures" (Holmes, 2016). "The case studies in Geography teaching in the classroom are real world examples of places, patterns and processes, while field work, which is emphasized from the very beginning of schooling, enables learners to see and investigate at first-hand the reality of what they learn in the classroom" (Rowntree, 2012). "Geography helps students to make sense of their own knowledge and experience of the world. Geography teachers can use the everyday experience of students of their own and other places, and the knowledge they gain from a wide range of sources outside school, to help them make sense of their world" (Wiggs, 2011).

2.3.7 Providing Research Basics

"Geography teaches a wide range of research skills. Geography teaches a wider variety of research methods and skills than any other subject in the school curriculum Geography students learn how to collect information from primary and secondary sources such as field observation, mapping, monitoring, remote sensing, interviews,

studies and reports, and the Census" (Milan et al., 2015). "They learn how to process and analyse that information through cartographic, statistical, graphical, and qualitative methods, and to communicate their conclusions in written, cartographic, diagrammatic, graphical, visual and audiovisual forms" (Heritage, 2015)

"Geography helps develop identity. Geography contributes to the personal and social development of young people. It explores how they perceive places, the meanings they attach to them, how they experience them, and how their identity and culture is formed by this experience" (Garland and Holmes, 2012).

"Through an investigation of their own place and its significance to them Geography helps young people to develop their personal sense of identity, while through the study of settlement Geography they can develop their identity as South Africans. Having a strong sense of personal identity is an underlying factor in social competence, and here Geography also has a role to play" (Green, 2013).

Psychologist Christopher Spencer, after analyzing the work of primarily environmental psychologists,reasoned: "The plausible, intuitively persuasive, case for the importance of place in the development of a complete, rounded self-identity has begun to be made. And it is also clearly arguable that the subject of Geography, and its early-years teaching, can have a major role to play in partnership with parents and peers and personal exploration of the neighborhood. One could also make a parallel case for its importance for the sense of community and citizenship, as one moves the focus from individual well-being to that of the wider social world of the child" (Spencer, 2005).

"National identity is a more contentious issue, and these are all matters of public debate, and all students should have the opportunity to think about them in school. An understanding of topics like these, combined with the local and global knowledge identified earlier, gives young people the ability to follow and contribute to local and national debates on a wide range of topics. This is knowledge that is empowering" (Lambert and Morgan, 2010).

"Geography helps students to make sense of their own knowledge and experience of the world" (Australian Council for Educational Research, 2006). "Geography teachers can use the everyday experience of students of their own and other places, and the knowledge they gain from a wide range of sources outside school, to help them make

sense of their world" (McInerney, Berg, Hutchinson, Maude & Sorensen, 2009). "The reference to the everyday experience of students relates to teaching that builds on students' own knowledge and experience"" (Catling and Willy, 2009).

"It is about the world in which they are active participants, not passive onlookers" (Balderstone, 2006). "It also acknowledges that students gain information from a wide range of sources outside the school, and that this information can be brought into the classroom and examined through more formalised processes of inquiry". (Barratt-Hacking, Scott& Barratt, 2007; Catling and Willy, 2009; Martin, 2006)

2.4 INITIATIVES MADE TO IMPROVE LEARNING IN GEOGRAPHY

In this section I am going to highlight and discuss on the initiatives that can be used in improving learning in Geography which include apprenticeship type of learning, simulation, and participant observation type of learning.

2.4.1 Learning by Reflection

"Learners should be able to use Geographical knowledge to configure their own lives and use it to assess the desirability of situation, developments and solution, and to decide how to act in various situations and in different places" (Facione, 2011). "An importance prerequisite for achieving these aims is the development of geographical reasoning" (Volman et at., 2014). Teachers in the Dutch secondary schools take the initiatives to improve the learning of Physical Geography in grade 12 by implementing the Geographical reasoning which is promoted by applying the program evolved by English Thinking Through Geography (TTG) group. The TTG point of view concentrated on the growth of both geographical intelligence and higher order.

"Teachers in the Dutch secondary schools explain the Geographical reasoning as a reasonable reflection thinking about the relationship between mankind and environmental focused on deciding what to believe or do in situations where location matter also requires an open minded and inquisitive attitude, the ability to reason and argue (thinking skills) Geographical knowledge and metacognition" (Hooghuis et al., 2014).

"The TTG approach focuses on the development of both Geographical knowledge and higher order to achieve that they use their Geography lessons contains divergent exercises and they encourage collaborative groups work between learners and reflection on how tasks have been tackled" (Van der Scheee, 2014). "Most teachers in several European country are taking initiatives to improve the learning of Physical by adopting the TTG approach and they appreciate this kind of initiatives as motivating and challenging way to stimulate both their learners and their own thinking" (Nolet, 2005).

"Studies were conducted in England where the education of general thinking skills was integrated in subject specific lessons" (Leat, 2004). Similar studies were reported for Dutch Geography teachers; however, "the English and Dutch studies referenced and also show the TTG strategies fail to take full advantage of what these have to offer there are lot of challenges with these initiatives that they are taking and the learning of Physical Geography does not seem to improve" (Applis, 2016).

2.4.2 Simulated Films

"In the United State of America (USA) teachers are also taking some initiatives to improve the learning of Physical Geography in grade 12. Geography is a fun and exciting discipline involving the interrogation of place and space" (Russell, 2012). "Film is a powerful and meaningful tool, which also transmits perception of place and space, hence some of the teachers in the USA are using film as their initiatives to improve Physical Geography particularly animated film to make their teaching exciting" (Kenna, 2017).

Learners have long lamented that social sciences are boring because it depends too much on memorising facts (Chiodo and Byford, 2004). "In Geography that is names and location of countries, states, capitals and landforms which in most instances is not connecting with the learners' lives" (Edgington & Hyman, 2005). Most of the youth especially learners spend most of their time watching television so if they have to be taught something using the same instruments it becomes easy for them to learn (Russell and Kenna, 2014). "Many USA Geography teachers use film in their classroom, but not all of these are succeeding" (Marcus, 2010). "Sometimes they use film in place of a textbook because using film as a visual textbook means showing

learners places that they have never been, but it does not help in terms of discussing critical question" (Waters, 2017)

"Although teachers are trying to take initiatives to improve the learning of Physical Geography by using film researchers in the UK found the negative relationship between the youth screen time and their grades" (Corder et al., 2015), but the "findings are the to remind the teachers not to use film because learners enjoy the medium rather, they must equip learners with proper media literacy skill" (Corder et al., 2015).

"Geography is not just about studying the Earth or the relationship between humans and their environment. In fact, this is half of Geography the other half focuses on how the content is studied" (Fernald, 2012). "It becomes relevant when studying where things happen and why things happen in each place and space hence the utilization of films becomes important than field trips, because field trips effectively find a range of limitations with the practice" (Russell, 2015). "Even through there are challenges in the utilization of film but there are many benefits as well such as having a richer, more detailed and lasting comprehension of the subject matter" (Kenna, 2017). "Although learners describe Geography as a boring subject it is important for teachers to think of creative and captivating ways to engage their learners" (Joshou. 2017).

Studies conducted in Romania (Gica, 2013) reveal that "Romanian teachers say one of the beneficial ways of promoting learning is to get the learners involved in the teaching, learning process, to guide them for them to discover the information they need, while searching for solution to a given problem, while analysing the causes and effect of certain Geographic phenomena and processes, while improving their knowledge by using previous information acquired by the learners in the formal, non-formal and information environment" (Gica, 2013).

"Simulated films can be achieved by highlight the interactive teaching strategies through which the learners may contribute to their own learning, acquiring knowledge both through their own effort and by using the experience of the other participation, so , the learners are faced with a problem launched by the teacher and individually or in groups, guided by the teacher they try by using knowledge they have to solve the task proposed to the right solutions ,to formulate their own viewpoint to ask others and to

ask themselves questions in order to facilitate the exchange of ideas between learners and teacher and among the learners" (Oprea, 2006).

Therefore, "the interactive teaching strategies contribute to the improvement of the quality of the teaching, learning evaluation process, having an active participative character and a genuine vigorous shaping value for the learner's personality" (Cerghit, 2006).

2.4.3 Use of Computer-aided Designs in Teaching

According to a study conducted by (Moletsane et al, 2014) "Western Cape teachers are supporting their learners in reading, writing and numeracy and assisting them in infusing technology to make learning more interesting and effective" (Grosser, 2007). Grosser (2007) "also note that teachers contribute most to educational activities by ensuring quality learning processes". Hence, "teachers provide support within a social system model, by integrating learning support activities and resources into the existing daily class routine" (Coleman,2001; Donald, Lazarus and Lolwana,2002).

Initiatives taken by other teachers with different instructions, they use overheads and videos, enable student to conduct research using computers and the internet, provide a variety of materials to learners' pictures, word bank enlarge maps (Kenna, 2017). The use of visual in lesson frames can help learners learn important routines or strategies. Other teachers use a method of scaffolding their learners because scaffolding provides a clear structure and precisely stated expectation and breaking down task into manageable pieces (Carnahan, 2014). "It provides clear directions, clarifies purpose, it keeps learners on task, points learners to worthy sources, reduces uncertainty, surprise and disappointment, helps learners to organise, breaks the work down in to manageable pieces, provides a structure for completing the project" (Pankratz, 2014).

2.4.4 Participant Observation

In the USA there are several studies conducted on initiatives taken by teachers to improve the learning of Physical Geography in Grade 12. (Arnahan, Pankratz, Alberts, 2014) "some initiatives are teaching Physical Geography with Toys, household items and food their findings where when learners are actively engaged with the material"

(Alberts et al., 2014). "Learners learn best when they are actively engaged with the material because all their sense are engaged" (Fink, 2003) "Argues that directly observing an event, caring out an experiment in the lab, or exploring a phenomenon in the field are significant learning experiences as learner are simultaneously engaged in several levels of learning".

A few analysts (Carnahan I, 2014 &Tonts 2011) indicate that for "deep learning to emerge a learner should go about various stages of active engagement with the material, but in most instances using computers as materials is expensive". Even so, "there are cheaper options available" (Power, 2005). Palmer (2002) demonstrates that "compare phenomena like thunderstorms or tornadoes can be explained with simple house household items like plastic bottles and jam jars, toys like balloons and play doh as well as food like muffins and chocolate also offer great opportunities for teaching Physical Geography".

"Some initiatives taken by teachers to improve the learning of Physical Geography regarding weather and Climate is by using food colouring when demonstrating ocean currents, balloons for atmospheric pressure, balloons because tools like barometers and anemometers can be used to demonstrate what air pressure is and how fast the wind is blowing, but balloons are a more fun way to experience this" (Swanson & Hanrahan, 2010).

"The Coriolis forces is one of the most confusing concepts for a simple experiment to show how the Coriolis force works involves the use of a turntable, some powdered sugar and a ball bearing, or heavy marble and solar heating can be demonstrated by using soda cans painted in different colours as well as clear jars containing san water as described by" (Tarbuck, Lutgens and Pinzke, 2009). Hence exercises enhance the learning process they use cheap materials that they can easily afford to perfect the learning of Climate and Weather it's even better because they are involved in most of demonstration unlike watching it on video (Alberts et al., 2014).

"Household items and toys can be used productively to teach weather and climate but can also be a great asset in classes on Geomorphology. Teachers' uses play doh to show different types of landforms, broccoli for vegetation areas" (Tonts, 2011). Even if they are using cheap material, they are also faced with other challenges especially

in large classes it becomes a problem when carrying out that demonstration (Fink, 2003). "Household items, toys and food are just low cost they are also effective and enjoyable teaching tools however learner's performance seems not to improve" (Coppola, 2006).

2.4.5 Using Learning Support as in Audio Visual Aids

According to Mashau et al. (2008) "learning support includes supplementary, remedial, or extra class instructions, curriculum advice, academic mentoring, assisting students to work in groups, developing study and note-taking skills, school psychological services, medical and social work services, feeding scheme, and all other services for meeting special needs of learners and for preventing learning difficulties."

"Literature reveals that learners are motivated when they sense that teachers care about them and when their responses are validated and affirmed by the teacher" (Crombies et al., 2003). "Mutual respect, an environment that values learners contributions and encourages participation promotes greater engagement and academic success" (Dallimore, Hertenstein and Platt, 2004; Pickens, 2007).According to Western Cape Teachers Moletsana and Stofile (2014) "supplementary or extra class instructions, additional or extra notes, additional learning time for numeracy and literacy subjects, assistance in accessing information from books and other learning materials, assistance in developing study skills, peer mentoring or study groups and teacher behaviours that support effective learning".

"Teacher enthusiasm is also one of the most important motivation strategies which make learning more enjoyable while giving students the impression that mastering concepts is achievable" (Coleman, 2001). When the atmosphere is not conducive to obtaining support, students will struggle. According to Moletsana et al (2014), teachers must innovate classroom behavior that ensures a tension-free environment by making sure that learners understand what they will be learning.

"Studies have been conducted about factors that contribute to poor performance in Grade12 Geography" (Rilwani, Akahomen, Dora and Gbakeji, 2014). The Causes of poor performance (Turgut, 2018), the impact of Geography as a subject in the school curriculum (DBE, South Africa, 2014) and initiatives of improving learning in Grade 12

Physical Geography do not seem to be readily available (Roble, 2006 and Leepo, 2015). These are different things that people have done regarding the learning of Geography in high schools. But now when the researcher looks at their findings, she does not see a lot of work that has been done on how learners are supported. That is what the study intends to do. The researcher wants to explore the strategic initiatives taken, methods and support used by Geography teachers and schools to improve the study of Physical Geography in Grade 12 in the Mamabolo Circuit, Limpopo Province, South Africa.

2.5 THEORETICAL FRAMEWORK

2.5.1 Shulman's knowledge base for teaching theory

"The 'Knowledge Base for Teaching Theory' is one of the models that provides the demands and expectations of teaching as a profession" (Shulman, 2012). Fernandez (2014) "explains that every kind of profession possesses a collection of knowledge that distinguishes it from others and places those who gain knowledge of the skills in an appropriate position to enter the profession. Therefore, teacher knowledge base refers to the set of knowledge and skills, instruments and attitudes, personality and conduct for teaching as a profession".

In relation to the above argument Slekar and Haefner (2010) posit that "teaching is a complex activity that is intentional in nature but dynamic and responsive to the situation in the classroom, the learners and the subject issue". Thus, "teacher knowledge is a multidimensional exercise that does not only encompass comprehension of children's mental and social growth, understanding methods of teaching as well as the curriculum for teaching but also includes the individual teacher identity, desire for knowledge search, exposure, attitudes and beliefs concerning the aim and the meaning of teaching and learning" (Webster, 2013). Slekar and Haefner (2010) argue that "teachers should depend on a wide knowledge base in arriving at day to-day classroom decisions".

"Shulman's teacher knowledge base model advances that successful teaching is founded on seven elements: content knowledge, pedagogical content knowledge,

curriculum knowledge, which are content-related and the other four: general pedagogical knowledge, knowledge of learners and their characteristics, knowledge of educational contexts and knowledge of educational ends, purpose and values and their philosophical and historical grounds" (Shulman, 1987). "Old as Shulman's model may be, its content is closely related to some of the contemporary components associated with teacher expectations and demands like content knowledge, quality of instruction, classroom climate, classroom management teacher beliefs and professional behaviours" (Coe et al. 2014).

Four of Shulman's suggested elements for the teaching profession that link to the study: content knowledge, pedagogical content knowledge, knowledge of learners and their characteristics, and knowledge of educational contexts will be discussed in the next section.

2.5.2 Relevance of Shulman's theory to the study

"The researcher is of the view that Shulman's teacher knowledge base is relevant in gaining insight into the nature of learner performance and teaching of Geography in public secondary schools in South Africa; because it provides a wide range of elements that influence teaching as a profession, which have been confirmed through research to be one of the most influential elements in student achievement" (Anderson and Mundy, 2014; Caena, 2011; Center for High Impact Philanthropy, 2010; Knox and Anfara, 2013; Stronge, 2012; World Bank 2012).

To begin with, "Shulman identifies subject knowledge as a fundamental element in teaching because every teacher is expected to know the Geography subject matter they are meant to deliver" (Slekar & Haefner, 2010). This links to one of the emphasised teacher expectations and needs quoted in section 2.3.3. According to Das (2012), "the subject counts among the important factors that characterise teaching; therefore, it is essential that teachers are well-grounded in the subjects they teach". Danielson (2011), Dumont, et al. (2012) and McGregor and Cartwright (2011) "note that subject knowledge, in terms of how it is structured, is a major prerequisite to teaching because it provides the teacher with a well-defined idea of what the students are expected to learn".

"The second aspect in Shulman's theory that relates to the study is pedagogical knowledge, an element which refers to the teacher's ability to teach a particular subject to the various kinds of students" (Figueroa and Damme, 2013). Pedagogical knowledge, like subject knowledge in the preceding paragraph, is among the major demands and expectations highlighted in the literature review. "Pedagogical knowledge is profound knowledge of the processes and the mechanisms for teaching and learning including the way it encompasses the purpose, values, and aims of education". Koehler (2011) "Pedagogical knowledge embraces a set of guidelines and approaches for the organisation and management of the classroom and it is one of the quality teaching indicators. In relation to the advanced arguments above, the researcher observes that lack of pedagogical knowledge has potential to leave some learners behind and in turn compromise their educational attainment". OECD (2013) The analyzer concurs with the claim that a "few students are subjected to an education system where they lag and creating an improved education system will need concerted efforts in many areas especially the need to assist students to manage their learning by making use of efficient strategies". Dunlosky, Rawson, Marsh, Nathan and Willingham (2013)

The third phase of Shulman with regard to the core of the study is teacher's understanding of learners, which also connects to the examined literature on factors that impact learner performance and teaching. "Knowledge of learners includes knowing the biological, sociological and mental stages of student development, understanding teachers' and students' interactions, understanding behavioural challenges of students and understanding the environment and learning constraints". Liakopoulou (2011) "Content is not taught in the abstract, but within a specific context and, as such, the teacher needs to be aware of the various aspects that relate to the learners". Danielson (2011)

Fourthly, "Shulman's theory is relevant to the study because it includes the knowledge of educational contexts which, according to Liakopoulou (2011), entails knowing the students and their family origin, including the community at the local level, systems of education, school unit organisation and management, educational history and philosophy, and educational frameworks of administration". "Teacher's knowledge of the culture in which they teach is important because culture "defines people, context,

human relationships and leadership", and influences what people and organisations do" (Grobler et al. 2011). The preceding arguments give evidence that good teaching is characterised by several aspects which include the content of the subject being taught; the manner of instruction; how the educator communicates with the learners and controls the classroom activities; knowledge of the learners and their characteristics; and knowledge of educational contexts.

2.5.3 Conclusion on Shulman's teacher knowledge base theory

The factors of Shulman's theory with regards to the emphasis of the research connect to the elements that direct teaching and learning in relation to learner performance in the reviewed literature. The analyzer notices that the recommended factors of teacher knowledge base – content knowledge, pedagogical content knowledge, knowledge of learners and their characteristics, and knowledge of educational contexts – connect to the study facts on aspects that impact on teaching as a profession. Therefore, Shulman's knowledge base theory act as a source of reference for learner performance and teaching in public secondary schools in South Africa. The analyzer is reckon that the South African educational planners and policymakers have several exercises to carry from Shulman's theory for improving learner performance.

2.6 SUMMARY OF CHAPTER

The unit gave the introduction of composition analysis and theoretical framework. It proceeded to look at learner performance in Geography and defining poor learner performance. The causes of poor learner performance which include negative role modelling, the family's socio-economic status, teenage pregnancy and marital status, substance abuse, linguistic challenges, lack of qualified geography teachers, lack of resources as a factor in learner performance, learner expectations and lack of content and fundamental knowledge of Geography were raised and elaborated.

This unit further reflected on the function of Geography as a subject in the school curriculum and the focus was on providing essential knowledge about the World, provide a link between the World and other learning and life domains, nurturing the innate curiosity about nature in learners, gives understanding of demographic;

economic and political changes of the world, support the interrelationships between the biophysical environment and people, providing a holistic and an integrated understanding of phenomena as well as providing research basics

Issues around Initiatives made to improve learning in Geography were pinpointed and explained among the issues were learning by reflection, simulated films, use of computer-aided designs in teaching, participant observation and using learning support as in audio visual aids

The Theoretical framework was discussed based on Shulman's insight basis for teaching theory. In this theory the chapter looks at importance of Shulman's theory to the study and outcome on Shulman's teacher knowledge base theory.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Unit two offered a bold background to the analysis of linked literature. This chapter concentrates on the study methodology used for the study. The methodology described, was used to research Initiatives taken by teachers to improve learning of Physical Geography in Grade 12: The case of Secondary Schools in Mamabolo Circuit, Limpopo Province, South Africa.

In this study the analyser talks about the study paradigm, study approach, and the research design. It further provides an explanation on the methods of sampling or selection of participants, data collection and data-analysis. Quality criteria, honest reflections and restrictions of the research are also discussed in this unit.

3.2 RESEARCH PARADIGM

There is a lot of research paradigm in natural, human and social sciences a paradigm is some kind of philosophy which stands to underpin, guide and control the mindset of a researcher. In this study the research paradigm is non-positivist also falls in the same category is interpretivist.

3.2.1 Non-positivist/interpretivist Paradigm

"This is opposed to positivist paradigm. This paradigm argues that it is inappropriate to follow strict natural-scientific methods when collecting and interpreting data. They hold that the natural-scientific method is designed for studying molecules or organisms and therefore not applicable to the phenomena being studied in human behavioural sciences" (Creswell, 2018). Human experience is the focus of behavioural research; it cannot be detached from the subjects. Phenomenologists are in opposition with imitating natural science researchers for they separate themselves from the phenomena under research, this study though it would practice a mixed approach, the researcher would include subjects many times. Phenomenologists are anxious with being familiar with human behaviour from the point of view of the people participating.

3.3 RESEARCH APPROACH

"A research approach is a plan of action that gives direction to conduct research systematically and efficiently. There are three main research approaches as

quantitative (structured) approach, qualitative (unstructured) approach, and mixed methods research. All research must involve an explicit, disciplined, and systematic approach to find out most appropriate results" (Creswell, 2018).

"This study employed a qualitative research approach because a qualitative research approach is a type of primary research in which the researcher collects first-hand information obtained directly from participants" (Miles & Huberman, 2014). In this research, Information was gathered from Grade 12 Geography educators, sampled in the targeted schools rather than information from books only. "The research explored the initiatives taken by teachers to improve the learning of Physical Geography in Grade 12" (Neumann, 2018). "This Qualitative research differs from quantitative research in the sense that it typically operates within the setting where people create and maintain their social world" (Neumann, 2018).

"The paradigm uses an inductive form of reasoning rather than a deductive one, thus developing concepts, insights and understanding from patterns in the data" (De Vos, 2014). "Inductive reasoning presupposes a line of reasoning from the specific to the general and is aligned with qualitative research" (Bezuidenhout, 2014). It favours subjectivity and meanings (Schurz, 2008). "Inductive reasoning allowed the researcher to a binding principle, it attempts to establish pattern, consistencies and meanings" (Gray, 2014). It allows the research to establish generalisations and patterns, as well as to detect irregularities from (Klauer,Willmes and Phye, 2002).

"Basic characteristics of qualitative research are such that it is undertaken within the habitat of the participants, relies on spoken words of participants rather than on books, it is a meaningful way of collecting human experiences, qualitative research design keeps on changing as new data and additional sources become available" (Miles & Huberman, 2014). "The study used carefully selected number of participants to make it a qualitative study that relied on spoken words for the provision of a more sensitive and meaningful way of collecting human experiences" (Bless & Higson-Smith, 1995).

"The rationale behind the choice of qualitative research approach is centered around its strengths. The qualitative research approach is flexible and emphasises people's lived experiences their perceptions, assumptions, prejudgments and presupposition were discovered and connected to the social world around them" (Neumann, 2018).

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The qualitative approach helped the researcher to get to know the initiatives taken by teachers to improve the learning of Physical Geography in Grade 12. Thus, the researcher concerntrated on the schools in question using this approach to exhibit the initiatives taken by teachers.

3.4 RESEARCH DESIGN

According to Creswell (2014), research designs "are plans and the procedures for research that extent the decisions from broad assumptions to detailed methods of data collection and analysis". "A research design is a guideline within which a choice about data collection methods is made" (Creswell, 2018). "In the qualitative research design, the researcher's choices and actions create a research design best suited to the research during the research process" (De Vos, 2001). "The concept 'design' in qualitative study includes the entire process of research from the initial stages of Conceptualisation of a problem to the writing process" (De Vos, 2014).

"The qualitative research design is flexible, unique and evolves throughout the research process. Therefore, there are no fixed steps that should be followed and cannot be exactly replicated" (Creswell, 2014). "Research design can be considered as the structure of research it's the glue that hold all the elements in a research project together, in short s a plan of proposed research work" (Islamia, 2016)

According to Jahoda, Deutsch and Cook (1959) "A research design is an arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy and procedure". Hendry Manheim says "research design not only anticipates and specifies the seemingly countless decisions connected with carryout data collection, processing and analysis but it presents a logical basis for these decisions" (Islamia,2016). According to Zikmund (2013) "research design is a master plan specifying the methods and procedure for and procedure for collecting Research in Social Science: Interdisciplinary Perspectives and analysing the needed information".

"The definitions stress systematic methodology in collecting right information for interpretations with economy and procedure. In-fact the research design is the conceptual within which research is conducted" (Creswell, 20l4). "A research design should be based on some methodology, the research design should be made once

the topic and problem of research have been selected and formulated, objectives have been properly outlined, concepts have been properly defined and the hypothesis have been properly framed" (Zikmund, 2013).

According to Partington (2018), "the qualitative method refers to the design where data is collected in the form of words and observations as opposed to numbers, and analysis is based on interpretation of data collected as opposed to statistical analysis". "It is a method of data collection in which the procedures are not strictly formalized. The scope is likely to be undefined, and a more philosophical mode of operation is adopted" (Madikizela 2006). Imenda and Muyangwa (2003) "state that the qualitative design can be applied to the study of current and past events".

When applied to the past it is called historical research and when applied to current events it is qualitative research. This method gives the researcher an in-depth understanding of first-hand information and phenomena. "Qualitative research seeks to document individual perspectives, experiences thoughts, and behaviours, it also generates the narratives of individuals and groups by interacting with hem, observing their behaviour, and consider how the nuances of a context may influence their perspectives and experiences" (Jameel, 2018).

3.4.1 Need for Research Design

"Research design is necessary because it makes possible the smooth sailing of the various research procedures, thereby creation research as professional as possible, yielding maximum information with a minimum expenditure of effort, time and money" (McNabb, 2008 and Crotty, 2015). "For better, economical and attractive construction of a house, we need a blueprint (or what is a community called the map of the house) prepared by an expert architect, similarly we need a research design or a plan in advance of data collection and analysis" (McNabb, 2008). It is, therefore, imperative that "an efficient and appropriate design must be prepared before starting research processes to helps the investigator to organize the research ideas in a shape whereby it will be possible for him to look for errors and shortages" (MacNamara, 2016, Crotty, 2015).

"There are several types of research designs in qualitative research such as, descriptive research design, explanatory research design, and exploratory research design. The descriptive research design this describes phenomena as they exist. It is

used to identify and obtain information on characteristic of a particular issue like community, group or people" (Crotty, 2015). "In other words, we can say that this type of research describes social events, social structure, social situations, etc" (Crotty, 2015, Kumar, 2015). "The observer observes and describe what did he find? Descriptive research answers the questions, what, who, where, how and when. It is used to study the current situation" (Trochim, 2015). It is extensively applied in the physical and natural science.

"Descriptive research aims at portraying accurately the characteristics of a particular group or situation, one may undertake a descriptive study about the works in a factory, their age distribution, their community-wise, distribution, their educational level, their state of their physical health and so on also one may study the conditions of work in a factory health, safety and welfare" (Crotty, 2015). "One may undertake to describe the organization of industrial establishment or if a trade union congress, Descriptive research cannot be used to create a causal relationship, where one variable affects another; in other words, description research can be said to have a low requirement for internal validity" (Kanika, 2015). Briefly, "descriptive research concern with the whole thing that can be studied and counted. But there are always limitations to that other research must have an impact on the lives of the people around us2" (Kanika, 2015).

"Explanatory Research Design When the purpose of the study is to explore a new universe, one that has not been studied earlier, the research design is called explanatory" (Islamia, 2016). "The research is mainly concerned with causes or „why‟ factor about some phenomenon. It does not involve comparison and factors of change" (Shrivasta, 1995) For instance, "research on violence against bloomed conducted by this author described not only varieties of violence like criminal assault, lettering, kidnapping, murder, dourly death, etc. but also explain why men commit violence because of personality traits like dominance, suspicion, possession, etc" (Shailaja, 2016).

In a case study, the informative cases should be picked for special study. For problems, certain cases may be found more fitting than others. "The observations of strangers or foreigners may be very valuable, with reference to a certain community or culture" (Lincoln,2013). "In case study, the researcher himself has to be very alert" (Creswell, 2018). "Under the case study method, the subject matter studied in all its

dimensions & ramifications. The researcher may consider in this method, the transitional case, pathological cases, complicated may take into account in this method, the transitional case, pathological cases, complication and simple cases and description by foreigners and marginal individuals" (Creswell, 2013).

"The aim of the case study is to precisely know the factors and causes which plain the complete behavioural patterns of unit and the place of the unit in its surrounding social miller" (Lincoln, 2013). "It gives enough information about a person or a group or a unit the case study technique, generally, studies the subject-matter qualitatively and covers all aspects of a single entity" (Yazan, 2015).

"There are various approaches to case study methods in education such Stake, Yin and Merriam" (Yazan, 2015). The first one is Robert Yin, According to Yin "a case is a contemporary phenomenon within its real life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context" (Yin, 2018). He then "defines a Case study as an empirical inquiry that investigate the case or cases conforming to the above-mentioned definition by addressing the how or why' questions concerning the phenomenon of interest" (Yin, 2018).

"According to Yin designing a case study refers to logical sequence that connects the empirical data to a study's initial research questions and ultimately to its conclusions, and the Yinian way of data gathering is influenced by case study investigator's skills, training for a specific case study, the development of a protocol for the investigation, the screening of the case study and the conduct of a pilot study" (Yin, 2002, Yin, 2018).

"The second one is Robert Stake, Stake defines A case as a specific, a complex, functioning thing, more specifically inter grated system which has a boundary and working parts" (Stake, 1995). "He also defines A case study as a study of a particularity and complexity of a single case, coming to understand its activity within important circumstances" (Stake, 2006). "The Stakian way of designing a case study is a flexible design which allows research to make major changes even after they proceed from design to research" (Stake, 2006).

"With regard data gathering he says being a qualitative case study researcher requires knowing what leads to significant understanding, recognising good sources of data and consciously and unconsciously testing out the veracity of their eyes and

robustness of their interpretations. It requires sensitivity and scepticism" (Yazan, 2015). According to Stake (1995) "data analysis is a matter of giving meaning to first impressions as well as to final compilations".

"The last one is Sharan Merriam she defines a case as a thing, a single entity, a unit around which there are boundaries and it can be a person, a program, a group, a specific policy and so on and she defines a case study as an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process or a social unit and that is why the researcher of this study chose Merriam" (Merriam, 1998). According to Merriam (1998) "literature review is an essential phase contributing to theory development and research design". The researcher chose Merriam because she says theoretical framework surfacing from literature review helps mould research questions and points of focus.

"Since this study is qualitative study, it used the Merriam way of gathering data, because according to Merriam qualitative case study researcher needs to acquire the necessary skills and follow certain procedures to conduct effective interviews and careful observations and mine data from documents" (Merriam, 2016). This study utilised Observations, interviews and data from document was analysed. "Regarding data analysis according to Merriam is the process of making sense out of the data which is what this study has done, this study involved consolidating, reducing, and interpreting what people have said and what the researcher has seen and read" Merram, 2016).

"This study was informed by the interpretive paradigm, followed the qualitative research approach and used an exploratory case study design as described" by Merriam (2012) "who believes that epistemology which should orient qualitative case study is constructivism since she maintains that the key philosophical assumption upon which all types of qualitative research are based is the view that reality is constructed by individual interacting with their social worlds" (Merriam, 2012). The researcher of this study believes that reality is not an objective entity, rather there are multiple interpretations of reality hence "the researcher chose constructivism paradigm" (Merriam, 1998). The analyser brought a development of reality to the research situation, "which interacted with other people's construction of initiatives taken by teachers to improve the learning of Physical Geography in Grade 12" (Merriam, 2012).

This study employed followed an interpretive research paradigm because the researcher conceived insight as being socially constructed and emerging from people's social practices, therefore the researcher "conceptualised social reality as being generate and constructed by people and existing largely within people's minds" (Thanh and Thanh, 2015). The researcher believes that "research endeavours are geared towards seeking for culturally derived and historically situated interpretations of the social life world" (Crotty, 1998)

The researcher chooses exploratory research design because "It is the primary stage of research and the purpose of this research is to explore the initiatives taken by teachers to improve the learning of Physical Geography in Grade 12. Exploratory research is one which has the purposes of formulating a problem for more accurate investigating for developing a hypothesis" (Dash, 2016). This was only applicable when information could not be referenced due to a few or no studies at all.

The center of this research is on "gaming insights and familiarity with the subject area fair more rigorous investigation later" (Ponelis, 2015). "Exploratory studies are usually more appropriate in case of problem about which little research knowledge is available, for instance, there is little knowledge available about the initiatives taken by teachers to improve the learning of Physical Geography in Grade 12 the researcher was interested in such a problem to obtain insights in the face of little knowledge available about it" (Malhotra, 2016).

There are few types of exploratory research designs. This study will use a case study for a detailed analysis of people, events and relationships (Creswell, 2014). It also involves the monitoring of learner behaviour (Sage, 2005), which is very important in setting strategic initiatives for improving the learning of Geography in Grade 12. There are quite several case studies, which are different from each other based on the hypothesis and/or thesis to be proved (Zaidah, 2017). The problem provoking this study still exists to date. The approach is relevant to this study because there are many studies on poor performance, causes and effects (Roble, 2006; Leepo, 2015). But Grade 12 learners' Geography results do not seem to be improving, which means that the goal of this case study is to prove that further investigation is necessary (DoE, 2017).

3.5 SAMPLING/ SELECTION OF PARTICIPANTS

"Sampling is a technical accounting device to rationalise the collection of data, to choose in an appropriate manner the restricted set of persons, objects and events from which the actual information would be drawn" (Trochim, 2020, Dawson, 2002) There are different types of purposeful sampling such the one derived from Patton (2012) and Patton (2016). This study used convenience purposive sampling choosing participants according to their convenient accessibility, and also because of economic considerations. In addition to that the researcher chose the partakers methodically derived from the topic of interest in order to improve credibility.

3.5.1 STUDY SAMPLE

There are nine secondary schools at Mamabolo Circuit, with 7 of them offering Geography. The office appearance is old and not well established. The furnishers are dilapidated and the nine staff members at the school share four small offices with no floor tiles. This study took place at five secondary schools in Mamabolo Circuit with nine Geography teachers preferably with three or more years of teaching experience. These schools are in a rural area approximately 50 kilometres to the nearest town. "Purposive sampling was used to choose the participants of the study" (Jarvis et al., 2004). Purposive sample is when participants are chosen based on the needs of the study. Those who do not meet the requirements are not chosen (Baker & Duborskiy, 2017).

The purposive sampling method was selected because the analyser was worried about what initiatives were taken by teachers to improve the learning of physical Geography (McMillan, 2016). "The purposive sampling method allowed the researcher to acquire information that would build up arguments towards a deeper understanding of participants' reasons for learners performing poorly in Physical Geography" (Schumacher, 2016). "Another reason for the choice of purposive sampling is based entirely on the judgment of the researcher" (Singleton et al., 1988).

"The advantage of purposeful sampling includes that participant who are relevant to the study are selected, therefore reducing costs and saving time. It also allows for the collection of reliable and robust data" (Tongco, 2007). This research usedcriterion sampling using the criteria of poor matric Geography results because the researcher

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wished to explore the initiatives taken by teachers to improve the learning of Physical Geography in Grade 12. "The sample was therefore chosen using poor performance in matric specifically using grade 12 Geography teachers" (Barros, 2017).

This selection method was chosen because it permitted the analyser "to use a particular subject of respondents that gave information that was relevant to the topic". (Etikan, 2016). Five Mamabolo Circuit schools were selected that underperformed in the Geography subjects especially in the Physical Geography in the matric results. All the Grade 12 Geography teachers in each of the five participating schools were consulted. "Amongst the criteria that were used to select the teachers to be interviewed in the schools were that these teachers should have three or more teaching experience the reason behind the experience was to get more insight on the topic from teachers with expertise" (Schumacher, 2016).

3.6 DATA COLLECTION

"The procedure for collecting data entailed gaining access to schools, presentation of oneself and becoming acquainted with the research subjects, the data collection procedure and data collection instruments" (Denzin, 2018).

3.6.1 Gaining access

"The researcher negotiated permission from the principals and the Department of Education so that rules and regulations in public schools concerning access are complied with. Arrangements were made with research participants whereupon time schedules were drawn and agreed upon. The sampled teachers were consulted individually by the researcher at their respective schools to ask their permission and agree on the time of their choice" (Denzin & Lincoln, 2018). "Depending on the contingencies of the setting and the research problem chosen, there are two kinds of research access that may be obtained" (Denzin & Lincoln, 2018)

In this case monitors are the Department of Education and the principals. In this study, the investigator chose the "Overt access" which was relevant to this study because the "participants had the choice to participate or not" (Denzin & Lincoln, 2000).

3. 6. 2 Data collection instruments

Data collection instruments are the tools that the researcher used to collect data. The researcher used many instruments to gather data so that relatively all issues can be covered in this study. "Pilot study is defined as the miniaturised walk-through of the

entire study design" (Babbie,1990). A pilot study in the form of one interview, followed the interviews to emphasize errors before hand.   Semi-structured interviews were conducted with three Geography teachers, from three different secondary schools in the Mamabolo Circuit. During this time, the researcher understood " that the questions were not enough because it did not elicit some of the crucial information required and so the researcher decided to add more interview questions" (Bernard, 2013).

3.6.2.1 Research Interviews

"An interview is an interaction between two or more people for purposes of exchanging information through a series of questions and answers" (Bryant, 2011; Kumar, 2002). "Interviews can be structured, semi-structured or unstructured" (Dawson, 2019):

- "Structured interviews: In this type of interview the researcher prepares questions beforehand, and they are arranged and asked in a particular order" (Dawson 2019). "Identical questions are asked for everyone, and the researcher does not probe the participants but only clarifies instructions2"(Taylor & Bogdan. 1998).

- "Semi-structured interviews: use an interview schedule with topics or questions to be discussed. However, the order in which the questions are asked is not fixed but is determined by the conversation between the researcher and the participant" (Dawson, 2019; Woods, 2019). "This type if interview makes use of flexible questions. The role of the researcher is to probe the participants for more information" (Taylor & Bogdan, 1998).

"Semi Structured interviews were used for this research study because they made it easier to compare different data. It was easy to simplify the findings. The interviews were recorded and notes were also taken. Information proved to be more reliable and allowed the researcher to properly analyse it at a later stage" (Patton, 2016; Dawson, 2019).

As reported by McNamara (2012), "interviews are used to get the story behind a participants' experience and to get in-depth information about the topic". (Woods ,2019) concurs with this "by stating that a lot of relevant information about people's experiences are collected by directly questioning or talking to them". "Only a small

number of individuals were interviewed about the same topic to get more viewpoints about the questions that needed further explanation" (Bernard, 2013).

"Individual semi structure face-to-face interviews were used for individual teachers and principals because the researcher wanted the respondents to discuss even those issues that are sensitive. Individual face-to-face interview for Grade 12 teachers, and principals were used to get their opinion since they are in direct contact with Grade 12 learners on each school day" (Denzin & Lincoln, 2018).

"Interviewing is one of the most common methods of data collection used by researchers to inform them about social life. Interviewing could thus be regarded as the universal mode of systemic enquiry" (Holstein & Gubrium, 2019). "The technique of individual face-to-face interviewing treats the interview as a pipeline for extracting and transmitting information from the interviewee to the interviewer" (De Vos, 2011). The clause of confidentiality was strengthened by the use of individual face to face interviews. This helped the analyser to comprehend the initiatives taken by "teachers to improve the learning of Physical Geography in Grade 12 and opinions regarding learners' poor performances" (Bernard, 2013).

3.6.2.2 Educators

Teachers were interviewed at their respective schools. English was the medium of instruction during the interview. The investigator used an individual semi structured face-to-face interview with 3 educators per school. Interviews took 10-15 minutes. "The interview question focused on the initiative that they take to improve the learning of Physical Geography" (De Vos, 2011). During the interviews, other questions developed spontaneously during communication between the interviewer and the interviewee. Partakers wanted to know the reason why a. In this study, "first-hand information of individual participants was obtained through interviewing individual, teachers and principals" (Jorgen, 1989).

3.6.2.3 Principals

"Principals were interviewed individually at their schools and English was used. The interviews lasted for 5-10 minutes. The interview question sought to enquire about what initiatives are taken by teachers in their schools" (Holstein & Gubrium, 2019).

3.6.2.4 Observations

"Researchers applying the qualitative approach use observations quite often. The strategy is used as a principal data-gathering strategy in qualitative research because researchers are interested in the ways in which people usually make sense of or attach meaning to the world around them" (DeVos, 2001). The observation method is restrained and does not need direct communication with partakers; the observation can be conducted inconspicuously. In fact, there are settings and types of behaviour, which could not be studied through other more blatant methods.

"Another strength associated with observational research lies in its flexibility to yield insight into new realities or new ways of looking at realities" (Holstein & Gubrium, 2019). "This method produces especially great rigour when combined with other methods. The researcher was able to observe certain information like teachers' behaviour that would not be possible to get during interviews" (Denzin & Lincoln, 1998). "Observation research is a research approach that seeks to ascertain what people think and do by watching them in action, as they express themselves in various situations and activities. It is also recognized as the most direct means of studying people when one is interested in their overt behaviour. It is a more natural way of gathering data" (Sidhu, 2016).

According to Imenda and Muyangwa (2007) "observation research is especially effective in situations where the researcher wishes to study detailed, specific areas of human behaviour. Observations are usually flexible, enabling the researcher to gather a wide range of data for a variety of research objectives".

3.6.2.5 Document analysis

"Document analysis of diagnostic report, mark sheets, quarterly and half-yearly schedules was used to get the information that might not be accessible during interviews" (Denzin & Lincoln,2018).

3.7 DATA ANALYSIS

Richards (2014:170) states that "qualitative data are presented non-numerically in the form of written words". According to Creswell (2013:179) "data analysis involves categorisation, ordering, summarising, coding and organising themes, representing

the data and present information in a meaningful manner". Creswell (2013:179) explained that "data analysis is the practice of conveying order, structure and meaning to the mass of collected data. Information collected in the form of an interview needs to be examined so as to convey direction and meaning. Data-analysis is a way that the researcher makes meaning of the data collected" (Zar, 2019). Data was collected through qualitatively in this research. The qualitative data was composed by means of interviews. This data was analysed in part manually with the assistance of NVivo software. "The analysis of the qualitative data was with a view to understanding the participant's experience" (Thomas, 2003; McMillan & Schumacher, 2010). The researcher transcribed the information collected from the interviews. These transcripts "were then read and important categories were identified; and data were sorted and grouped according to similar concepts - this was done to separate the data into workable units" (McMillan & Schumacher, 2010; Thomas, 2003).

Where suitable, both open coding and axial coding methods were used for data coding. Open coding was used to divide the collected data into categories for comparison to explore differences and similarities. similarly, axial coding was used to make connections between the categories and subcategories. Hence, thematic study was carried out to find key themes and recurring ideas and linking the responses of the interviewees together. The information was then analyzed to find how one concept motivated another, and alternative explanations were searched for. This was done by describing the responses from the respondents. Patterns were sought from this (Thomas, 2003) and were then interpreted. The findings were then reported. Since this was a method of triangulation both the qualitative and quantitative analyses were reported on simultaneously. In chapter 4 findings will be presented based on the analysis

3.8 QUALITY CRITERIA

Quality criteria include credibility, dependability and confirmability. These are very important in different ways. According to Smith and Deemer (2015), a criterion refers to "an observable pointer that can tell us along with other criteria whether the findings of a study are valid or are of value in terms that are more general". This implies that different criteria to be used in this study will thoroughly check a clear and solid reference that will eliminate mistakes which can be committed by the researcher and

include all information that needs to be considered when judging quality (Deemer, 2015).

3.8.1 Credibility

In as much as this study adopted a qualitative approach, the researcher ensured that several aspects were addressed. "Credibility is one of the most important factors in establishing trustworthiness and is about determining how congruent the findings are with reality" (Tracy, 2010). Credibility made the findings of this study to be trustworthy and believable to others (De Vos, Strydom, Fouche & Delport, 2011). To ensure credibility in the study, the researcher used triangulation (Sale, 2014). "There are different types of triangulations such as triangulation using different data sources, investigators and methods of data collection" (Rolfe, 2006), "Data triangulation which refers to using multiple data sources in time, space and person (gathering data from different types or level of people e.g., individuals, their family members and clinicians)" (Rolfe, 2017).

"Investigator triangulation which is concerned with using two or more researchers to make coding, analysis and interpretation decisions, Members check Feeding back data, analytical categories, interpretations and conclusions to members of those groups from whom the data were originally obtained" (Richartson,2017). "It strengthens the data, especially because researcher and respondents look at the data with different eyes" (Neuman, 2018) and "Method triangulation which means using multiple methods of data collection which was the one chosen by the researcher, she conducted interviews, and analysed documents to gain a more complete understanding of the phenomenon being studied" (Creswell, 2014). Thus, the research findings were rich, inclusive and well-developed (Olivia, 2018).

3.8.2 Dependability

Secondly, the notion of dependability was of the outmost importance in the study. "Dependability refers to having sufficient details and documentation of the methods employed so that the study can be scrutinised and replicated" (Rolfe, 2006). "This revealed the extent to which the findings of the study were consistent in relation to the context in which they were generalised" (Lincoln, 1985). "Dependability ensured that the research findings were consistent and could be repeated" (Finlay, 2016). "This was measured by the standard of which the research is conducted, analysed and

presented" (Finlay, 2016). "Each process in the study was reported in detail to enable an external researcher to repeat the inquiry and achieve similar results. This also enables researchers to understand the methods and their effectiveness" (Farley, 2011).

This study demanded the researcher to explain and follow the relevant research techniques. According to Holloway (2005), "dependability implies that if the same study is conducted with the same participants, the possibility is that the results may be the same. Dependability includes the aspect of consistency, but it emphasises the need for the researcher to account for the ever-changing context within which research occurs" (Trochim, 2020). "The researcher was responsible for describing the changes that occur in the setting and how these changes affected the way she approached the study" (Trochim, 2020).

3.8.3 Confirmability

Lastly, the notion of confirmability was also embedded in this research study. This implies that the results are based strictly on the study's participants and setting instead of the researcher's biases (Hungler, 2004). Confirmability refers "to the degree to which the results could be confirmed or corroborated by others and questions how the research findings are supported by the data collected" (Polit & Hungler, 2004). To make sure that the study reach the criterion of confirmability, the researcher used the following: raw data, open-ended questions and interviews. She also took the analysed data back to the participants for confirmation (Streubert, 2003).

"Confirmability concerns the aspect of neutrality the researcher secured the inter-subjectivity of the data" (Korstjiens, 2017). "The interpretation was not based on the researchers own particular choices and perspective, but needs was established in the data2 (Beckman, 2014). Here, "the focus is on the interpretation process embedded in the process of analysis. The strategy needed to ensure dependability and confirmability is known as an audit trail" (Tracy, 2010).

"The researcher was responsible for providing a complete set of notes on decisions made during the research process, research team meetings, reflective thoughts, sampling, research materials adopted, emergence of the findings and information about the data management" (O'Brien, 2014). That was done to enable the auditor to study the transparency of the research path because according to Guba (2020)

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Confirmability is the degree to which the results of the research study could be validated by other researchers.

3.9 ETHICAL CONSIDERATIONS

Ethics spell the morality in any given activity. It guides the conduct and operations of the researcher in ways that no one will be affected in the future, including the researcher and the respondents of the study (Dich, 2013). With the support of the study by supervisors and the University of Limpopo Ethics Offices, this study observed a few ethical guidelines and rules in order to avoid jeopardising the rights and freedom of humanity (Mckee, 2016).

"It is very important to abide by the research ethics" (McMillan & Schumacher, 2014 Wallen et al., 2015, Opie, 2004). "Credible research is done with permission of all relevant participants protects the participants, adheres to the privacy and confidentiality of the participants, and takes care of the wellbeing of participants" (McMillan & Schumacher, 2014, Wallen et al., 2015).

3.9.1 Permission for the study

"Before the researcher conducted the research, permission from the following relevant stakeholders were requested: Department of Education, principals and teachers" (Burgess, 2018)**. "**The Research Ethics Committee of the University of Limpopo gave permission and ethical clearance to conduct the study. The clearance assured the respondents that the researcher is a bona fide student at the university" (Porter, 2017). After receiving permission identified schools were notified by letter about the research that was to be conducted. They were given assurance that they will be kept anonymous and that the day to day program will not be disturbed.

3.9.2 Voluntary participation and informed consent

Participants were notified about the purpose of the study, and that their participation is not compulsory. Therefore, "they had the right to excuse themselves from the study should they wish to do so (Grandy, 2010). Participants were given consent forms to sign before engaging in interviews. The written informed consent was obtained after the participants have a clear understanding of the purpose of study. Participants were not given any benefit or incentives for taking part in the research. This was emphasised by the researcher when asking for permission to record interviews beforehand (Dich, Mckee & Porter, 2017).

3.9.3 Anonymity and Confidentiality

The study did not require any personal information that could be traced back to the participants. "That assured the participants that they will remain anonymous, and that their responses remain confidential" (Resnik, 2015). Only authorised personnel were granted permission to the taped interviews. Full confidentiality, privacy and anonymity was assured and maintained throughout the study (Connel, 2014). The researcher made sure that ethical considerations were met. She informed the respondents of the aim of the study and sought permission before visiting the research sites (Dich, Mckee & Porter, 2017).

3.10 LIMITATIONS OF THE STUDY

The research concentrated on the initiatives taken by educators to improve learning of Physical Geography in grade 12: the case of High schools in Mamabolo circuit, Limpopo province, South Africa. Thus, the analysis of the research does not consist of secondary schools in other circuits of other districts of the Limpopo Province or other provinces of the country. It is hoped, however, that the knowledge gained from the research will be applicable to other secondary schools within the circuits and districts of the Limpopo Province, and other provinces in the country.

Additionally, the study cannot declare to have disclosed all the initiatives taken by teachers. Some participants could have lied intentionally to get the researcher off their back. Some of the teachers who did not want to participate might have yield more light on the dilemmas observed as individuals. Regardless these restrictions encountered, the feedback provided gave more light on what teachers are doing to improve the learning of Physical Geography in Grade 12.

3.11 SUMMARY OF THE CHAPTER

This unit demonstrated the research approach and interpreted why it was picked, selection methods employed in the research were also discussed fully. The unit goes on to describe the data-collection instruments and the rationale behind their selection. The researcher also described the methodology she used to follow when collecting and analysing data. The unit also demonstrated how the ethical considerations were regarded to during the collection of the data. The preference of research designs and

their applicability to the area of the research were discussed in full. The restrictions of the research were also outlined.

From the above data, there is no single research method that can be regarded as a principle for investigating a research problem. All research approaches, methods and techniques are relavant and crucial as long as they are used appropriately. The researcher collected data through semi-structured interviews, observations, and document analysis, which highlighted critical issues that were not predictable. In the next unit the researcher will present the analysis, findings and interpretation of the study.

CHAPTER 4: DATA PRESENTATION, DISCUSSION AND ANALYSIS OF FINDINGS

4.1 INTRODUCTION

This unit explore the data obtained from participants and then discusses the findings of the research. The interview responses are transcribed. The Department of Education (DoE) "structure is sophisticated and it involved several bureaucratic levels according to educators' ranks". All the selected educators are under Limpopo DoE in Mamabolo circuit operations division. Schools and educators handle viable plans of the department; and they are gofers for teaching and learning. This chapter will be composed of three sections. That is section A presenting the data and section B presents data from documentary evidence and section C is bringing the analysis of findings from the presented data,

4.2 SECTION A PRESENTATION OF DATA

4.2.1 QUESTION 1: In which grade(S) do you teach Geography?
From the data gathered it was found that among the respondents one taught from Grade 8 to 12, four taught from Grade 10 to 12, three taught Grade 11 and 12 and one Grade 10 and 12 only.

4.2.2 QUESTION 2: How long have you been teaching Geography?

Among the respondents there were various years of experience two of them had an experience of years four years starting from (2017 to 2020), two had experience of 5 years, one 16 years four had 20 or years with 20, more than 20, 24 and 27 years, respectively.

4.2.3 QUESTION 3: Which other subjects do you offer in the school? (Grade & Subject)

The respondents were teaching the following subjects English in grade 12, Grade 8 and 9, Social Science and Grade 9 Creative Arts, Social Science Grade 9 and English Grade 11 and 12, English Home Language Grades 10-12, Social Sciences and History, Grade 8 Social Sciences and Grade 9 English FAL, None I teach only the above-mentioned subjects and Grades. Social Sciences 8-9, Geography Grade 10

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and 12 and Geography second chance programme. These were the additional subjects besides Geography Grade 12.

4.2.4 QUESTION 4: Is Geography your area of specialisation?

All the respondents were Geography specialists which means they had majored it in their various teachers' training colleges and universities.

4.2.5 QUESTION 5: What initiatives are you taking to improve the learning of Physical Geography?

The respondents attested to be in several initiatives which include, ensuring that teaching is dynamic challenging and in accordance with learners' comprehension. They used variety of methods during teaching for example., demonstrative questions and answers and textbook method. They were using different textbooks as references to improve learning. They also used different approaches such as communicative and text-based approaches which enabled learners to participate in their own learning. One respondent said, "The real Geography exists outside the classroom." The respondent argued that learners are encouraged to observe geographical facts or features, like temperature, pressure, clouds, lakes, and mountains when they are taught outside the classroom. The outside environment brings firsthand experience about the studied acts of nature thereby giving apparent grasp of natural proceedings. The idea of outside the classroom when teaching Geography is supported by field trips mostly taking the learners for larger explorations of the landscapes. Through excursions learners get educated and entertained. They learn by interacting with the environment. During field studies/work learners can see practically what they are taught in the classroom. This gives learners who are kinesthetic to have better understanding of what they are taught in the classroom.

Other respondents said that learners are encouraged to use Google as most of the processes and features do not occur in their vicinity. They are also urged to watch the news and listen to the radio so that they are updated with the current disasters occurring in different parts of the world and how such issues relate to the geography curriculum. They also attended curriculum support meetings related to subject matters to discuss and strategize. Most respondents said, "We sometimes use newspaper articles and magazines to read stories about the geographical processes that take

place in different parts of the world." The respondents said they have realised that learners no matter how old they are, they are fascinated by pictures so when they use pictures they become interested in the lesson. Some use previous question papers to make learners aware of the different methods that are used to set the examinations and for the learners to acquaint themselves with the instructions. This also allowed them to give learners more informal tests from the past examination question papers for practice. Some said "Not much is done to improve the learning of physical Geography due to lack of physical maps. Most of the time I rely on the use of topographic maps and various textbooks." They argued that the use of topographic maps is not quite effective because they do not have all the information required to improve the educational process of Physical Geography. In support of the outside school environment teaching one respondent said,

"The area where I teach is very conducive for the teaching of Physical Geography learners can observe the process of erosion and how it negatively impacts on the environment. In the surrounding areas including Makgoebaskloof, they can observe features such as valleys and gorges."

This was found to initiate more practical work, field trips and seminar presentations. I also use telematic broadcasts, PowerPoint presentations and make use of videos related to Geography for Grade 12 topics. Visuals, when teaching chapters on geomorphology assist learners to visualize what the theory is saying and improve learners' understanding. Some respondents advocated for experimentation by having transparency bags filled with soil samples so that the learners identify the soil, explore at all factors that causes soil erosion and they observe the outcomes.

Some said the other initiative is when schoolwork is given to learners, parents need to be involved, though it is hard to manage because some of the learners' parents are not well educated. So, it is not an easy task. One senior respondent said, "My belief is that parents are courageous and can instill values that encourage school learning to their children." Schools should build a strong alliance with the parents and appreciate their participation to their children's work. This would assist educators in giving learners more work so that their performance improved.

Some educators said Physical Geography is seen as one section that is difficult to most learners. In this section educators actively engaged learners in peer-teaching other learners and then they supported the process. Geography is a practical and a science subject. One of the respondents said I visualize Geography by drawing mental pictures in my learners' minds for example, early in the year I teach them geomorphology because its rainy season.

"We can see drainage patterns in the school yard. In short all landforms are within reach than theorizing the phenomena we use branches of trees in and around the school to teach them about stream orders as they look directly with stream ordering."

For climatology, the educator said (sic) "I bring climate into classroom I want to teach anticyclones I bring two desk fans to represent S.A. high pressure cell and S. Indian high. Here I am dealing with subconscious mind of a child Geography is one of the simplest of all simple subjects." The educator argued that the initiative allows the learners to be independent thinkers.

4.2.6 QUESTION 6: Are those initiatives productive? Yes/No

Six of the respondents unanimously agreed **YES** asserting the initiatives were productive. However, they argued that they can only become more productive provided enough time with the learners is available. Due to time constraints teaching outside the classroom is restricted. Some of the respondents said learners are interested in the use of technological gadgets and they know how to use them better. As we are in the fourth industrial revolution, learners are exposed to technology so as teaching must also be advanced. They said through Geographical movies learners become inquisitive when you show them a video story on a Geographical process which have occurred in some parts of the world. Some said when the learners do the observations of the eroded sites, they can understand what erosion is and how it impacts the environment. Field trips allow observation and recording of data for example in climatology and fluvial processes. Data handling becomes easier. Seminars allow for a more practical approach to answering questions and initiate discussion. Practical exercises are interactive, and students become confident. Most learners are struggling with Physical Geography because they cannot relate with what is taught and what is on the environment, they only see things in the books.

On the other hand, some respondents said **No** meaning they outrightly refused that the initiatives are not productive. Their argument being, field trip becomes a challenge when learners or the school do not pay, time allocated and availability of the venue to visit will not be granted. The technophobic argued against, saying the technological advance methods are not yet in place in most schools particularly in rural areas so they cannot be good initiative. For the past 10 years I was responsible for more than three hundred learners Grade 10,11 and 12 My results in Grade 12 have been above 90% without this technology up to until 2 years back whereby we had to share teaching those grades with the new generation educators, the results started to change downwards, and learners showed lack of understanding with regards to physical geography. "That decline have a good indication of being a versatile educator. I do not keep learners in the class for the whole day for interdependency role." This reflects that physical Geography is not about books or technology but scrutiny of the environment.

4.2.7 QUESTION 7: Why is it that the results are still not improving amid initiatives that have been taken?

The respondents said the group I am teaching consists of progressed learners. They require extended opportunities to grasp the content delivered in the classroom. Therefore, should my lessons be limited to teaching time in accordance with the annual teaching plan (ATP) they will not be comprehended. There is limited time for extra lessons, field trips and excursions. Physical Geography is based on the processes and features that are not in the learners' surroundings and they become complex for the learners to understand.

Some strongly said, the content is not interesting to the learners because the issues that are addressed do not affect their everyday lives. On the other note they said learners are not taking the subject seriously. They do not have the interest of the subject at heart. They argued that the subject need learners who are determined to work hard and on their own which is not the case with our present-day learners. Some blamed too much lecturing in the classrooms saying it creates mere sponges and no conceptualization takes place. However, they said not all Geography teachers use the same approach. In most cases inexperienced educators often have challenges with certain topics and fail to deliver effectively. Some said there is lack of visual teaching

and the use of smart boards are not yet activated in our schools, so learners are not viewing what they are being taught. Therefore, they are likely to forgot. Others said there are some teachers who are resistant to change, "For me I think and realised that some teachers own Grade 12 and become stagnant. Some teachers are selfish they do not want kids to pass."

4.2.8 QUESTION 8: What type of support do you get from other levels of education?

Most of the respondents said the get support in the form of team teaching with other educators from different schools to assist the offering of geography lessons in my school and vice versa. They also raised the issues of support from curriculum advisors who visit schools to offer support on the teaching of Geography. Offering learning and teaching support materials (LTSM). Support given by the curriculum advisors with relevant available teaching materials given is good. WhatsApp communiques are given by the curriculum advisors. Created WhatsApp group where relevant useful materials are posted to teachers is of good help. The curriculum section give support in the form of workshops and visits to the schools. Our curriculum advisors also provide lot of material (electronically) which help us in teaching the subject. We also have memoranda discussions after every examination so that we share how best can learners answer questions. They said the competitive spirit from curriculum advisors by giving them diagnostic reports and analysis of results per province for the educators to see what others do to improve results is very useful.

Some respondents said the Department of Education (DoE) does not give assistance in the form of workshops. However, the DoE establish clusters which assist in preparing tasks and district which assists with relevant data and notes and departmental meetings at district level allowing educators to share. They also said educators who are appointed for the Grade 12 marking also share their experience. Some educators get support from the Head of Department (HOD) and school principal. They have purchased tools and instruments such as meter (rule), protractors, used when doing calculations and we normally use it to measurements taken in class in real life to show how it is done, globes to show various countries of the world.

4.2.9 QUESTION 9: In your view, what other initiatives can be applied to improve the current state of Geography?

Several respondents said, Physical Geography should be taught practically instead of theoretically. Learners understand well by learning autonomously and through direct contact with natural features. The use of projectors and slides should be normalized to use time effectively.

The other cohort of respondents advocated for the encouragement of peer teaching, team teaching and peer assessments. They asserted that learners should create electronic study groups (WhatsApp, Zoom). They said that would allow educators to give learners enough formative and summative assessments to work independently and in electronic groups. They added that educators should train learners to write assessments because they are formally assessed through writing at the end of the year.

Some said the DoE should divide the preparatory and end of the year examination into two papers of 150 marks each instead of 225 and 75 marks, and the papers to be written on two different dates. The content in Physical Geography must be redesigned so that it addresses important and relevant concepts to the learners. The learners must be motivated to develop the love for the subject. Learners must be emboldened about the advantages of learning the subject and must know, the opportunities available related to the subject.

The Department need to provide schools with electronic equipment's devices such as overhead projectors and computers which will help to make the teaching and learning of the subject interesting. More geography informative programmes must be rolled out from departmental subject advisors to assist struggling schools with support in the form of content presentation. The DoE need to identify quality educators to assist sell the subject. Learners must know it's worth that is, because other learners take up the subject as just a seventh option without any passion for it. Educators must encourage active participation and acknowledge new ideas from learners.

In addition to that Department of Education could assist with models of features that are taught in class to show learners, project these features instead of making them imagining things they have not seen before. The other respondents said DoE in

collaboration with educators should Identifying problematic areas in Physical Geography. Some respondents said the educators should have a Geography committee at circuit level, in which meetings with all Geography teachers can be held and discuss challenges they come across during the teaching and learning processes. Initiate Geography learner leaders who will be able to engage in meetings with the committee to present their challenges on behalf of learners and propose learner-teacher partnerships programme where learners will talk openly with their teachers on how to enchance in Physical Geography. The respondents argued that Geography committee should meet with Geography learner school leaders to highlight concerns and recommendations in improving the current state of Geography.

Some respondents said curriculum authors should change the ATP to suit four seasons of the year. "We cannot teach climatology in summer as cold front and anti-cyclones occur in winter for effective knowledge our kids' teachers should rotate in teaching Geography."

Lastly some said Geography educators in the school should rotate, "If poor teachers are stuck in Grade 12 with poor result is a disaster." On the other hand, they complained about workload. They said Geography is a practical subject therefore it should have a less workload.

4.3 DATA FROM OBSERVATIONS

Table 4.1: First Educator observed

Question Number	Yes	No
1 Lesson Preparation		X
2 In class on time	X	
3 Use pace setter or CAPS documents		X
4 Start with prior knowledge		X
5 Confidence when presenting lesson	X	
6 Lesson driven by objectives and outcomes		X
7 Teacher relates the lesson with the learners' social life situation	X	
8 Is the teacher using resources (Teaching aids)		X
9 The teacher creates inclusive environment for learning	X	
10 The teacher encourages learners' participation	X	
11 The teacher able to discipline the learners	X	
12 Does the teacher mediate learning or is s/he lecturing?	X	
13 Teacher is capable of gaining full attention of leaners during the lesson		X
14 Is the teacher writing or making notes for learners?		X
15 Is realistic time given to cover a topic in the work schedule?	x	

16 Did the teacher show knowledge of the content?	X	

This educator had not prepared for the lesson, though he attended the lesson time. The educator was not in line with the pace setter or CAPS document standards. The educator did not start the lesson with prior knowledge which means he/she did not give a recap from the prevision lesson. The teacher had confidence when presenting the lesson however, the lesson was not driven by objectives and outcomes. The lesson the teacher presented was related to the learners' social life situation though the teacher was not using resources or teaching aids. This teacher created inclusive environment for learning the teacher above all encouraged learners' participation and the teacher disciplined learners during the lesson. The teacher was not mediating the lesson instead was lecturing. The attention of the learners was not captured throughout the lesson. The teacher did not write or make notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table4.2:Second Educator observed

Question Number	Yes	No
1 Lesson Preparation		X
2 In class on time		X
3 Use pace setter or CAPS documents	X	
4 Start with prior knowledge	X	
5 Confidence when presenting lesson		X
6 Lesson driven by objectives and outcomes		X
7 Teacher relates the lesson with the learners' social life situation	X	
8 Is the teacher using resources (Teaching aids)		X
9 The teacher creates inclusive environment for learning	X	
10 The teacher encourages learners' participation	x	
11 The teacher able to discipline the learners		x
12 Does the teacher mediate learning or is s/he lecturing?		x
13 Teacher is capable of gaining full attention of leaners during the lesson	x	
14 Is the teacher writing or making notes for learners?	x	
15 Is realistic time given to cover a topic in the work schedule?	x	
16 Did the teacher show knowledge of the content?	x	

This educator had not prepared for the lesson, though he attended the lesson lately. The educator was in line with the pace setter or CAPS document standards. The educator started the lesson with prior knowledge which means he/she gave a recap from the prevision lesson. The teacher had no confidence when presenting the lesson however, the lesson was not driven by objectives and outcomes. The lesson the

teacher presented was related to the learners' social life situation though the teacher was not using resources or teaching aids. This teacher created inclusive environment for learning the teacher above all encouraged learners' participation and the teacher disciplined learners during the lesson. The teacher was not mediating the lesson instead was lecturing. The attention of the learners was captured throughout the lesson. The teacher wrote notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table 4.3: Third Educator observed

Question Number	Yes	No
1 Lesson Preparation		X
2 In class on time		X
3 Use pace setter or CAPS documents		X
4 Start with prior knowledge	X	
5 Confidence when presenting lesson	X	
6 Lesson driven by objectives and outcomes	X	
7 Teacher relates the lesson with the learners' social life situation		X
8 Is the teacher using resources (Teaching aids)		X
9 The teacher creates inclusive environment for learning		X
10 The teacher encourages learners' participation		x
11 The teacher able to discipline the learners		x
12 Does the teacher mediate learning or is s/he lecturing?	x	
13 Teacher is capable of gaining full attention of leaners during the lesson	x	
14 Is the teacher writing or making notes for learners?	x	
15 Is realistic time given to cover a topic in the work schedule?	X	
16 Did the teacher show knowledge of the content?	X	

This educator had not prepared for the lesson, though he attended the lesson late. The educator was not in line with the pace setter or CAPS document standards. The educator started the lesson with prior knowledge which means he/she did not give a recap from the prevision lesson. The teacher had confidence when presenting the lesson, the lesson was driven by objectives and outcomes. The lesson the teacher presented was not related to the learners' social life situation and the teacher was not using resources or teaching aids.   This teacher did not create an inclusive environment for learning the teacher above all did not encourage learners' participation and the teacher did not discipline learners during the lesson. The teacher mediated the lesson instead of lecturing. The attention of the learners was captured throughout the lesson. The teacher wrote notes for the learners. The teacher allocated

enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table 4.4: Fouth Educator observed

Question Number	Yes	No
1 Lesson Preparation	X	
2 In class on time	X	
3 Use pace setter or CAPS documents	X	
4 Start with prior knowledge		X
5 Confidence when presenting lesson	X	
6 Lesson driven by objectives and outcomes	X	
7 Teacher relates the lesson with the learners' social life situation	X	
8 Is the teacher using resources (Teaching aids)	X	
9 The teacher creates inclusive environment for learning	X	
10 The teacher encourages learners' participation	x	
11 The teacher able to discipline the learners	x	
12 Does the teacher mediate learning or is s/he lecturing?	x	
13 Teacher is capable of gaining full attention of leaners during the lesson	x	
14 Is the teacher writing or making notes for learners?		x
15 Is realistic time given to cover a topic in the work schedule?	x	
16 Did the teacher show knowledge of the content?	x	

This educator planned for the lesson, and he attended the lesson on time. The educator was in line with the pace setter or CAPS document standards. The educator did not start the lesson with prior knowledge which means he/she did not give a recap from the prevision lesson. The teacher had confidence when presenting the lesson and the lesson was driven by objectives and outcomes. The lesson the educator presented was related to the learners' social life situation and the teacher was using resources or teaching aids. This teacher created inclusive environment for learning the teacher above all encouraged learners' participation and the teacher disciplined learners during the lesson. The teacher was not mediating the lesson instead was lecturing. The attention of the learners was captured throughout the lesson. The teacher did not write or make notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table 4.5: Fifth Educator observed

Question Number	Yes	No
1 Lesson Preparation	X	
2 In class on time	X	
3 Use pace setter or CAPS documents	X	

	Yes	No
4 Start with prior knowledge		X
5 Confidence when presenting lesson		X
6 Lesson driven by objectives and outcomes		X
7 Teacher relates the lesson with the learners' social life situation		X
8 Is the teacher using resources (Teaching aids)		X
9 The teacher creates inclusive environment for learning	X	
10 The teacher encourages learners' participation	x	
11 The teacher able to discipline the learners	x	
12 Does the teacher mediate learning or is s/he lecturing?	x	
13 Teacher is capable of gaining full attention of leaners during the lesson	x	
14 Is the teacher writing or making notes for learners?		x
15 Is realistic time given to cover a topic in the work schedule?	x	
16 Did the teacher show knowledge of the content?	x	

This educator arranged for the lesson and attended the lesson on time. The educator was in line with the pace setter or CAPS document standards. The educator did not start the lesson with prior knowledge which means he/she did not give a recap from the prevision lesson. The teacher had no confidence when presenting the lesson and the lesson was not driven by objectives and outcomes. The lesson the teacher presented was related to the learners' social life situation though the teacher was not using resources or teaching aids. This teacher created inclusive environment for learning the teacher above all encouraged learners' participation and the teacher disciplined learners during the lesson. The teacher was mediating the lesson instead of lecturing. The attention of the learners was captured throughout the lesson. The teacher did not write or make notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table4.6: Sixth Educator observed

Question Number	Yes	No
1 Lesson Preparation	X	
2 In class on time	X	
3 Use pace setter or CAPS documents	X	
4 Start with prior knowledge	X	
5 Confidence when presenting lesson	X	
6 Lesson driven by objectives and outcomes	X	
7 Teacher relates the lesson with the learners' social life situation	X	
8 Is the teacher using resources (Teaching aids)	X	
9 The teacher creates inclusive environment for learning	X	
10 The teacher encourages learners' participation	x	
11 The teacher able to discipline the learners	x	
12 Does the teacher mediate learning or is s/he lecturing?	x	

13 Teacher is capable of gaining full attention of leaners during the lesson	x	
14 Is the teacher writing or making notes for learners?	x	
15 Is realistic time given to cover a topic in the work schedule?	x	
16 Did the teacher show knowledge of the content?	x	

This educator planned for the lesson and attended the lesson on time. The educator was in line with the pace setter or CAPS document standards. The educator started the lesson with prior knowledge which means he/she gave a recap from the prevision lesson. The teacher had confidence when presenting the lesson because the lesson was driven by objectives and outcomes. The lesson the teacher presented was related to the learners' social life situation moreover, the teacher was using resources or teaching aids. This teacher created inclusive environment for learning the teacher above all encouraged learners' participation and the teacher disciplined learners during the lesson. The teacher was mediated the lesson instead of lecturing. The attention of the learners was captured throughout the lesson. The teacher wrote notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table 4.7: Seventh Educator observed

Question Number	Yes	No
1 Lesson Preparation	X	
2 In class on time		X
3 Use pace setter or CAPS documents		X
4 Start with prior knowledge		X
5 Confidence when presenting lesson	X	
6 Lesson driven by objectives and outcomes	X	
7 Teacher relates the lesson with the learners' social life situation	X	
8 Is the teacher using resources (Teaching aids)	X	
9 The teacher creates inclusive environment for learning	X	
10 The teacher encourages learners' participation		X
11 The teacher able to discipline the learners	x	
12 Does the teacher mediate learning or is s/he lecturing?	x	
13 Teacher is capable of gaining full attention of leaners during the lesson	x	
14 Is the teacher writing or making notes for learners?	x	
15 Is realistic time given to cover a topic in the work schedule?	x	
16 Did the teacher show knowledge of the content?	x	

This educator prepared for the lesson, though he attended the lesson late. The educator was not in line with the pace setter or CAPS document standards. The educator did not start the lesson with prior knowledge which means he/she did not

give a recap from the prevision lesson. The teacher had confidence when presenting the lesson and the lesson was driven by objectives and outcomes. The lesson the educator presented was related to the learners' social life situation and the teacher was using resources or teaching aids. This teacher created inclusive environment for learning the teacher but did not encourage learners' participation, but the teacher disciplined learners during the lesson. The teacher was mediating the lesson instead of lecturing. The attention of the learners was captured throughout the lesson. The teacher wrote notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table 4.8: Eighth Educator observed

Question Number	Yes	No
1 Lesson Preparation	X	
2 In class on time		X
3 Use pace setter or CAPS documents	X	
4 Start with prior knowledge	X	
5 Confidence when presenting lesson	X	
6 Lesson driven by objectives and outcomes	X	
7 Teacher relates the lesson with the learners' social life situation	X	
8 Is the teacher using resources (Teaching aids)		X
9 The teacher creates inclusive environment for learning		X
10 The teacher encourages learners' participation	X	
11 The teacher able to discipline the learners	x	
12 Does the teacher mediate learning or is s/he lecturing?	x	
13 Teacher is capable of gaining full attention of leaners during the lesson	x	
14 Is the teacher writing or making notes for learners?		x
15 Is realistic time given to cover a topic in the work schedule?	x	
16 Did the teacher show knowledge of the content?	x	

This educator had prepared for the lesson, though he attended the lesson time late. The educator was in line with the pace setter or CAPS document standards. The educator started the lesson with prior knowledge which means he/she did not give a recap from the prevision lesson. The teacher had confidence when presenting the lesson however, the lesson was not driven by objectives and outcomes. The lesson the teacher presented was related to the learners' social life situation though the teacher was not using resources or teaching aids. This teacher created inclusive environment for learning the teacher above all encouraged learners' participation and

the teacher disciplined learners during the lesson. The teacher was not mediating the lesson instead was lecturing. The attention of the learners was not captured throughout the lesson. The teacher did not write or make notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

Table 4.9: Ninth Educator observed

Question Number	Yes	No
1 Lesson Preparation	X	
2 In class on time		X
3 Use pace setter or CAPS documents	X	
4 Start with prior knowledge	X	
5 Confidence when presenting lesson	X	
6 Lesson driven by objectives and outcomes	X	
7 Teacher relates the lesson with the learners' social life situation	X	
8 Is the teacher using resources (Teaching aids)	X	
9 The teacher creates inclusive environment for learning	X	
10 The teacher encourages learners' participation	X	
11 The teacher able to discipline the learners	X	
12 Does the teacher mediate learning or is s/he lecturing?	X	
13 Teacher is capable of gaining full attention of leaners during the lesson	X	
14 Is the teacher writing or making notes for learners?	X	
15 Is realistic time given to cover a topic in the work schedule?	X	
16 Did the teacher show knowledge of the content?	X	

This educator had not prepared for the lesson, though he attended the lesson time. The educator was not in line with the pace setter or CAPS document standards. The educator did not start the lesson with prior knowledge which means he/she did not give a recap from the prevision lesson. The teacher had confidence when presenting the lesson however, the lesson was not driven by objectives and outcomes. The lesson the teacher presented was related to the learners' social life situation though the teacher was not using resources or teaching aids.   This teacher created inclusive environment for learning the teacher above all encouraged learners' participation and the teacher disciplined learners during the lesson. The teacher was not mediating the lesson instead was lecturing. The attention of the learners was not captured throughout the lesson. The teacher did not write or make notes for the learners. The teacher allocated enough time to cover a topic in the work schedule realistically the teacher was exhibiting knowledge of the content to be taught.

4.4 DATA FROM DOCUMENTARY EVIDENCE: GEOGRAPHY

4.4.1 Revised National Teaching Plan

The revised teaching plans are very crucial and very complex to formulate and they are done as illustrated in table 4.10 below

Table 4.10: 2020 NATIONAL REVISED TEACHING PLANS (NRTP) GRADE 12-Term 1: Geography: A SPECIMEN

TERM 1 (46 days)	Week 1 15 - 17 Jan (3 days))	Week 2 20 – 24 Jan (5 days)	Week 3 27 - 31 Jan 5 days)	Week 4 3 - 7 Feb (5 days)	Week 5 10 – 14 Feb (5 days)	Week 6 17 - 21 Feb (5 days)	Week 7 24 - 28 Feb (5 days)	Week 8 2 - 6 March (5 days)	Week 9 9 - 13 March (5 days	Week 10 16 - 18 March (5 days0
CAPS Topics	Mid-latitude cyclones	Tropical Cyclones	Subtropical Anticyclones	Valley and urban climates	Drainage systems in SA	Fluvial Processes	Catchment /management	Mapwork techniques	Topographic maps	Assessment /consolidation
Concepts, skills and values	Cold, warm and occluded front, areas stages, characteristics, weather conditions, read of synoptic weather maps	Characteristics, areas, factors, stages, weather patterns, read of synoptic weather maps, impact, management	Location, characteristics, circulation and influence, Travelling disturbances: moisture front, line thunder-storms, coastal LP, SA Berg wind, weather map	Aspect, anabatic and katabatic winds, inversions, frost pockets, radiation fog, influence on human activities(settlement/farming)	Drainage basin, catchment area, river system, watershed, tributary, river mouth, source, confluence, water table, surface run-off and ground water, types of rivers, drainage patterns	Transverse longitudinal profile, fluvial landforms: meanders, oxbow lakes, braided streams, floodplain, natural leveé, waterfall, rapids, delta. River grading, rejuvenation, river capture	Importance of managing drainage basins and catchment areas; impact of people on drainage basins and catchment areas. Case study of one catchment area management strategy in SA	Application to Climatology and Geomorphology	Contours & landforms, cross sections, direction, gradient, inter-visibility, grid reference	
Requisite pre-knowledge	Gr 11: High/Low pressures, and pressure belts. Weather changes during cold fronts	Gr 11: High/Low pressures, and pressure belts	Grade 11 content regarding HP, LP and pressure belts, global circulation	Knowledge of temperatures in valley/slopes and urban/rural	Grade 9 concepts and stages of rivers	Concepts used in Grade 9. Where and why river flows at different velocities.	Management, changes and challenges of a local/nearby stream or river	Techniques and skills Grades 9-11	Techniques and skills Grades 9-11	
Resources (other than textboo	Synoptic weather maps, windy tv, weather	Synoptic weather maps, windy tv, weather	Synoptic weather maps, windy tv, weather	Topographic maps, temperature data, video clips, google search(learners)	Topographic maps, video clips,	Topographic maps, video clips,	Topographic maps, video clips,	Topographic maps, orthophoto maps.	Topographic maps, orthop	

k) to enhance learning	radar app on smartphones or tablets	radar app on smartphones or tablets	radar app on smartphones or tablets		photos, google search by learners.	photos, google search by learners.	photos, google search by learners, case studies		hoto maps.
Informal assessment Remediation	3 data response tasks.	3 data response tasks.	3 data response tasks.	3 data response tasks.	3 data response tasks.	3 data response tasks.	3 data response tasks. Case studies tasks	Map work tasks. Old Paper 2 question papers.	Map work tasks. Old Paper 2 question papers.
SBA (Formal Assessment)	Discuss research task and rubric with learners in week 1. Learners have 3 weeks to work on task and request support if needed. Task submitted end of week 4.			TASK: Research Task: Research activities steps 1-4	Preparation for Task 1 & Task 2.			TASK 1 Data Handling	TASK 2 Test 1

A revised NRTP was the result of the National State of Disaster due to Covid and the ongoing lockdown has influenced a rare situation which has disturbed the school calendar thus affecting the employment of the Curriculum and Assessment Policy Statement (CAPS) for the 2020 academic year. To lighten the effect of the Covid lockdown, the Department of Basic Education (DBE) working together Provincial Education Departments (PEDs), has put together a framework for curriculum improvement plans after the lockdown was extended. The framework, which was brainstormed with key stakeholders in the sector, suggests an adjusted school calendar and curriculum reorganization and trimming, as some of the strategies to establish opportunities for curriculum recovery.

4.4.2 DIAGNOSTIC REPORTS: 2015-2019 GEOGRAPHY

The diagnostic reports cover a period of about 5-year performance of learners in the subject. The report this study picked is for 2015-2019 Geography which is on chapter 6 page 102. And is covering performance trends from (2015-2019) page 102. The number of candidates increased by 2 186 relative to the 2019 enrolment. The general performance of candidates improved tremendously this year, as indicated by 80,5% of candidates achieving 30% and above, with 53,3% achieving 40% and above. The pass rate at both these levels is the highest recorded in the past five years. As shown below.

Table 4.11: 2015-2019 Diagnostic report presentation

Year	No. wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2015	303 985	234 208	77,0	153 212	50,4
2016	302 682	231 641	76,5	145 726	48,1
2017	276 771	212 954	76,9	138704	50,1
2018	269 621	200 116	74,2	126 011	46,7
2019	271 807	218 821	80,5	144 755	53,3

In this report there are also overall achievement rates in Geography which are on page 102, overall achievement in Geography (percentage) on page 103, performance distribution curves in Geography (percentage) on page 103. The report also looks at overview of learner performance in paper 1 on page 104, diagnostic question analysis for paper 1 on page 108, average performances per question as a percentage in paper 1 on page 108, average marks per sub question as a percentage in paper 1 page 109, analysis of learner performance in each question in paper 1 this is page 109, diagnostic question analysis for paper 2 starting on page 115, average performance per question as a percentage in paper 2 page 115 and average marks per sub question as a percentage in paper 2.

4.5 SECTION C: ANALYSIS OF DATA

This section analyses the data which was presented in section A and B. There are two important approaches used in breaking down qualitative data (as they were managed in a diversity of different ways): the deductive approach and the inductive approach. Deductive approaches used a structure or predetermined framework to examine data. basically, the investigator imposed her own structure on the data and then used the imposed structures to analyse the interview transcripts. Conflicting, the inductive approach examined information with minimal or no predetermined theory, structure. This approach was comprehensive and therefore time-consuming and is most suitable for this study because little or nothing was known about the study phenomenon of initiatives taken by teachers to improve learning of Physical Geography in Grade 12 being the case of secondary schools in Mamabolo circuit, Limpopo Province, South Africa.

4.5.1 Grades and subjects taught by the educator

A lot of educators were found to be teaching a lot of Grades this affected them greatly. They were not able to manage the subject matter of Physical Geography the same sentiments were echoed by most of the respondents. The argument was based on the educator-pupil ratio and the number of periods an educator could teach per week in a school. The educators could teach from Grade 8 to 12 one person and teaching several subjects that hindered their implementation of initiatives to improve learning of Physical Geography in Grade 12 within the Mamabolo circuit in Limpopo Province of South Africa.

4.5.2 Expertise, Experience and Specialisation

The educators differed in their initiatives based on the experience, expertise and specialisation. The study displayed that educator's concept maps consisted of different concepts in average. The student educators used a little concepts and experienced educators had the most ideas in average. Also, it seemed that concepts used by experienced educators were more different than those of learners. If the student educators concentrated mainly on timing of teaching, then experienced teachers were more concerned about evaluating and giving feedback to students. However, no big difference, even in terms of learning, between these two groups of teachers was identified. This finding echoes the similar thought with (Saiduddin, 2003). Educators interviewing on lesson planning activities revealed that the interviewee was rather perplexed in exposing her ways of planning for a longer period or just for their Physical Geography lesson. Her justifications were ambiguous and fading pointing to the fact that thinking of experienced teachers is context dependent and their lesson plans are conceived as outlines for orientation. The results of both pilot studies confirmed that educators' thinking in lesson planning is heavily context dependent and that beginning and experienced teachers conceive lesson planning very differently. Therefore, investigation of appropriate differences in educators' initiatives call for a more improved research methodology than it was utilized in the piloting.

4.5.3 Treating Physical Geography as a Practical Aspect

Physical Geography is supported by practical activities, which include field trips where learners are taken outside the classroom into different environment allowing them to learn through direct conduct with the environment. As educators field trips are the best tools that we can utilize to give all learners with real-world acquaintances. Regardless that is a trip to the local grocery store, waterfront park, a library, a museum, a theater, a community garden or a restaurant, each experience that a student partake in adds to their perception of the world. When learners leave the classroom, they see the links between what is happening at school and in the 'real-world'. They begin to see that what they learn within the walls of the classroom can help them solve the problems they face in the real world around them and can have a straight influence on who they become as people. One of the educators attest that field trips allows the educators to use nature in elaborating concepts he gave a practice of using branches of a tree on explaining drainage patterns of rivers.

The practical part of Geography also includes excursions where learners will be exploring the landscapes in various provinces of South Africa. In doing that they will be learning and gaining knowledge and entertainment at the same time. However, most schools are not able to take this route because of related costs of conducting the practical. Some of this practical would make learners gain real life experience for example practical like measuring river discharge would be useful when the learners happen to be employed as water engineers.

Learners who partake on field trips come to be more empathetic and tolerant. This research found that learners that partake in field trips showed increased empathy, tolerance and critical thinking skills. Studying Geography gives learners a chance to think about a topic or theme from a different point of view. Field based learning boosts assessment results. In this study educators showed that Grade 12 learners who partake in Geography field trips through the schools' trips score better on the national examinations. Field trips and hands on learning make concepts more memorable.

Furthermore, field trips are of great importance because learners can respond to content in various ways. Ideas are presented through all different media and different modalities, so learners who battle with traditional learning can feel clever and

confident. They can access the content better when they can learn holistically. When they return to school, the trip that they took can serve as a touchpoint for an entire unit.

Some of our learners' worlds are so small, but the community that each child lives in is an incredible resource for expanding it. Within each student's city or region, there are people and places that learners can access that cannot be copied by the Internet or in the classroom. This multisensory learning experience can bring one dimensional lesson to life and create eagerness for a subject that is hard to copy through other media. As educators, it is our job to make that doable.

The educator can develop learner's observation by fostering certain modes outside the classroom. The educator may use the following modes for this objective Geography is basically an observational science. In the four walls of the classroom, the teaching of geography is bounded to the globe, maps and the textbook. The real geography exists outside the classroom. The learner should be made to notice geographical facts like the temperature, pressure, direction and velocity of the wind, clouds, lakes and mountains. The firsthand experience about these phenomena of nature gives clear understanding of natural happenings. Out of the classroom, there are fields, crops, soil and vegetation which also form part of geographical content. On the spot observation of these entities followed by discussion in the classes enhances learner's knowledge of geographical facts. The educator of geography would like to make children study the surrounding environment, the landscape and what it offers to man to make his living meaningful.

4.5.4 Revalorise the use of Technology in Teaching Geography

"Technologies like Geographical Information Systems (GIS) were found to be simplifying many geographical concepts and present large amounts of non-sequentially related data in simple and readily accessible formats, allowing pupils to concentrate on interpreting and analysing data" (West, 1999). However, "most schools cannot afford such technologies for they require huge sums of money to establish. ICT enables teachers to engage and motivate pupils about geographical concepts to a greater degree this finding echoed with the findings from" (Halocha, 2002; Taylor, 2003)'s study. Educators found out that learners benefit from interactive Information

and Communication Technology (ICT) such as email and internet that enables them to explore the sense of place, through interacting with people as well as through pictorial features This was supported by Storey (2002) who asserts that "using emails alongside postcards to make comparisons of places helps pupils to gain a better appreciation of other cultures". The major challenge of this initiative is lack of skilled educators.

4.5.5 Motivating the Learners to Prioritize Geography Subject

The study discovers that some geography educators, flop in creating conditions that results in circumstances where in the geography classroom, learners' fascinations are regarded, and those educators assume full commitment for setting up goals; no effort is made by such educators to enclose learners with new and different teaching techniques to awaken their enthusiasm. Additionally, such educators are not adequately well abreast with individual members of their class to apply inspirational techniques to best advantage. A geography learner having an extrinsic motive for studying geography does not lie in the subject 'geography' or how s/he is studying it, but rather her/his drive to attain a reward for studying it or it may be that s/he is studying it for fear of punishment or her/his persistence to pass an examination in geography. Examples of extrinsic motivation involve use of verbal praise and use of test grades or marks and remarks sensibly. Learners need to be intrinsically motivated. For instance, a learner's feeling of fulfillment in solving a problem in geography. As part of intrinsic motivation in learning of Geography educators need to   orderly and systematically presentation of lessons, citing of appropriate examples, to support semantic knowledge, present learners with amazing and novel stimulus, that provides details about the appropriateness of piece of learning task for future use (utility value), building conceptual in-contiguity (for example, utilization of advanced organizer or a spring board puzzle), developing new learning tasks on what has been learned previously – that is, using the principle of integrative reconciliation or association and capitalizing on arousal value of suspense. There are various ways by which the geography teacher can present the subject to students in an fascinating and appealing way. The teacher can motivate learning by using logical teaching technique that focuses more on prior knowledge. For instance, when teaching about waterfalls and

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located in Limpopo an educator can give an illustration of Dibangeni waterfalls in Makgoebaskloof.

Geography is all about relations of humans with spaces and places. Physical properties of the earth, such as mountain ranges and bodies of water, for example, can greatly influence the way humans move, think, and act. Geography explores the absorbing of how physical landscapes carve human history. Physical Geography is the study of the physical form of a land. It can entail climate, landforms, soil and growth, bodies of waters, and natural resources. Studying geography gives a meaning and information about places and spaces. It also assists learners with spatial consciousness on the globe. Information is easily accessed online it is also important to understand direction and where things are in the world.

4.5.6 Interpret and explain the NRTP to Entry Level Educators

From the observed lessons most educators failed to prepare, and they were planning to fail. Therefore, a well-coordinated educator always delivers their lesson within the afforded time frame (during the limited class timings). With the extra time preserved, an educator is able to dedicate extra attention and time to learners that need more help. Also, there will be a perception of authority and objective while teaching. Even if there is confusion amidst the learners, the teacher will be able to lead them effectively as the educator will be well versed with the subject matter and will be able to attend to the questions without any stress.

An educators' vital attribution is optimism. Lesson planning is important as it helps the teacher to know what they will teach learners and will also save them from the embarrassment of not being answer questions posed by learners. Good lesson planning helps the teacher to reach learners' expectations. To construct one, one needs to do the Effective Lesson Planning course. It can help the teacher to prioritize more on basic knowledge before moving to the next step. The teacher will not embarrass themselves in front of learners during a lesson because of timely preparation of the lesson. Educators may not be able to do all the work in the amended NRTPs due to limited time. Planning at a school and within each of the phases is important. Educators will in subject or phase teaching teams, and with their head of department, establish whether the revised NRTPs in their current format will be fully

addressed in the time available or whether they will be further trimmed and restructured. The incoming educators from training or from other departments need to be trained on how to interpret the NRTPs. Prepare new educators to apply a lot of different teaching styles and strategies. Creating different strategies and observing use by experienced teachers. Connecting strategies to learning outcomes. Evaluating teaching strategies with learners.

4.5.7 Increased Support from DoE

The Limpopo Department of Education has been working with several strategic partners to compose and release non-contact programmes and courses for pupils across the different schooling phases. In this instance, teaching and learning happens through television programmes, radio lessons, online lessons and e-resources. These platforms are used to provide alternative learning interventions for learners who are not yet back in class and an ideal catch-up platform for those already phased back in school. The television programmes that can be accessed by learners in the province include the Department of Basic Education's TV on Channel 122 Open View HD. These programmes cover Grade 12 Geography and other subjects like Physical Sciences. This was identified by some respondents; however, some respondents said the DoE is not supporting the educators' initiatives in the teaching and learning of Geography Grade 12 at all.

The DoE provides multimedia support to various schools in the province. New capabilities in multimedia allow teacher-made [presentations] to be obtained via the internet, granting learners the chance to study at home. The constructivist approach to learning in which the learner plays an active role in the teaching and learning process can further inspire learners to learn through their own knowledge with suitable learning material and teachers should use new and effective modes, ways, and designing speculations into multimedia teaching practice. The addition of visual data sources offers inverse response to printed text that may add critical and objective skills development, as analysis have shown the influence of multimedia beyond traditional lecture methods. However, the Department of Basic Education (DBE) (DoE, 2003:13) says that "The present situation ... cannot be maintained if South Africa is to address the digital divide. Like most parts of the world, the South African education and training

system has to respond to the pressures and challenges posed by the information revolution".

4.5.8 Create Awareness in to Changes World Over

By bringing awareness of the outcome of climate change it could be another way Geography can have a beneficial impact in the world. Geographers have firm understanding of weather patterns and climate changes about the course of history on areas of land. They also have analyzed how those developments alarmed humans in those areas. That insight is shared with others to hopefully bring an understanding and global awareness of the outcomes of climate change on human society. There are various reasons why schools are taking up the global awareness agenda. Some utilize it to encourage tolerance and an respect of different beliefs, cultures and backgrounds while others use it to provide their learners with knowledge of growing industries and chances for training potential future leaders. By its very nature, geography should foster a global perspective, but these may not necessarily be international. The findings of this study are supported by building on Hanvey's (1976) "geographic concepts and global perspectives, which included (i) perspective consciousness, (ii) awareness of the state of the planet, (iii) cross-cultural awareness, (iv) knowledge of global dynamics and (v) awareness of human" species, Klein, Pawson, Solem, and Waverly (2014) add (vi) "thinking geographically and (vii) personal action". There is an important and subtle difference between "global" and "international", although the two terms are often used synonymously and interchangeably.

This kind of awareness allow the learners to understand and comprehend questions in their national examinations.

4.5.9 Provide Simplified Diagnostic Reports

Over the years, criticism from teachers and examiners has improved the quality of proof contained within our diagnostic reports with the goal of making them both more available and more applicable to all. Our diagnostic reports are written by our principal examiners and begin with a detailed commentary on the cohort's approach to the whole exam paper, followed by an analysis of the paper question by question. They also include candidate exemplars with personalized commentary so that it's easy to

understand how learners tackled each exam questions, together with valuable insight into the common elements of success and challenging areas for growth for last year's cohort. The reports take the time to look into what answers and approaches were popular and offered candidates best, as well as briefly detailing approaches that candidates who achieved lower level responses broadly tended to use.

4.6 SUMMARY OF CHAPTER

This unit presented and evaluated the information. From the findings insight distribution in the police force is vital and valuable. Some of the data was influenced by levels, ranks, nature of recipients, technological conversance, behaviour, attitude, corruption, and nature of knowledge (sensitive and non-sensitive). The results also showed that insight sharing is also affected by competition within the ranks and within the station. It emulated that insight sharing is not easy because commanders and management do not execute the insight and suggestions from low ranked police officers. The junior police officers also feel undermined because they are heard nor taken into consideration.

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This unit concludes the debate of this research. By way of winding up, it brings attention to the milestone results of this study, as well as providing a way forward. It concludes by making recommendations.

Initiatives taken by teachers to improve learning of Physical Geography in Grade 12 negatively affect their work. It was consequently critical to assess, examine, establish and investigate the Initiatives taken by teachers to improve learning of Physical Geography in Grade 12 as they are practiced in secondary schools in Mamabolo circuit, Limpopo Province of South Africa. The researcher fulfilled the mandate of researching the initiatives taken by teachers to improve learning of Physical Geography in Grade 12 there is a general assumption that quality service starts from thereof and more, so Grade 12 is the representative of overally, South African high school education. The study questions, lesson observations and documents used to gather information dealt with the following:

- Grades taught
- Experience of teaching Geography
- Other subjects offered in the school (Grade & Subject)
- Geography as the area of specialisation
- Initiatives taken to improve the learning of Physical Geography
- The productivity of the initiatives (Yes/No)
- Reasons for unimprovement of results amid initiatives that have been taken
- Support educators get from other levels of education
- Educators' views, of other initiatives that can be applied to improve the current state of Geography

Lessons observed focused on:
- Lesson Preparation
- In class on time (Punctuality)
- Use pace setter or CAPS documents
- Start with prior knowledge
- Confidence when presenting lesson

- Lesson driven by objectives and outcomes

- Teacher relates the lesson with the learners' social life situation

- Is the teacher using resources (Teaching aids)

- The teacher creates inclusive environment for learning

- The teacher encourages learners' participation

- The teacher able to discipline the learners

- Mediation of learning or lecturing

- Teacher is capable of gaining full attention of learners during the lesson

- Writing or making notes for learners

- Is realistic time given to cover a topic in the work schedule

- Showing knowledge of the content

Documents used were;

Lesson plans focusing on ATP and NRTPs

These study questions also eyed at demographics of the respondents and there were respondents' representative of each age group in education Mamabolo circuit, Limpopo Province of South Africa. Black South African educators were the main categories.

A review of similar literature was done, and it concentrated on Literature reveals that there are several initiatives that teachers and schools can take to improve learning in different school subjects including Geography. The reviewed literature also highlights and discuss on the initiatives that can be taken into improving learning in Geography. These initiatives include apprenticeship type of learning, simulation, and participant observation type of learning. It also looked how knowledge shared in Geography between the learners and the environment as well as technological ecosystems which are writing, speaking, online and technology. In addition to that literature looked at the value of learning Geography, difficulties confranted with learning Geography at Grade 12, barriers in implementing the initiatives meant to improve the learning of Geography in Mamabolo circuit, Limpopo Province of South Africa and ways of how to overcome challenges of learning Geography effectively and efficiently at Grade 12. The audit of linked literature revealed that there are factors affecting the implementation of the initiatives taken by teachers to improve learning of Physical Geography in Grade 12

as they are practiced in secondary schools in Mamabolo circuit, Limpopo Province of South Africa.

A sample of eighteen educators in secondary schools in Mamabolo circuit, Limpopo Province of South Africa was chosen. Purposive sampling was used on this case. The sample had nine educators was chosen to respond to the questionnaire. Nine educators were chosen for lesson observation. The experience of the respondents ranged from 5-27 years.

The information was delivered and examined in a narrative form. It revealed that the initiatives taken by teachers to improve learning of Physical Geography in Grade 12 are still an uphill task. Educators reflected that implementing the initiatives to improve learning of Physical Geography in Grade 12 requires support from the DoE. Senior educators are the only ones who seemed to be able to implement the initiatives. Many educators are touched by how information is shared in DoE and how skills development programmes are administered in Mamabolo circuit. It is also emulated that subject management and control is not done in a friendly manner that is why educators are not able to mentor junior level educators.

5.2 CONCLUSION

This unit showed the findings of a qualitative investigation exploring the initiatives taken by teachers to improve the learning of Physical Geography in Grade12 from selected schools in Mamabolo Circuit of Limpopo Province in South Africa. Eighteen educators in secondary schools in Mamabolo circuit, Limpopo Province of South Africa were selected to find their views regarding exploring the initiatives to improve learning of Physical Geography in Grade 12. Most of the participants were aware of the initiatives to improve learning of Physical Geography in Grade 12; even so, the employment and enforcement processes remain a burdensome within the secondary schools in Mamabolo circuit, Limpopo Province of South Africa. It was also found that most of the partakers have the general knowledge of the initiatives to improve learning of Physical Geography in Grade 12 from manual point of view, but they do not have a sound understanding in relation to technology. The study concludes that no policies are in place for the initiatives to improve learning of Physical Geography in Grade 12.

Critical difficulty lies in the fact that some educators are unable to share their knowledge with newly hired educators. This implies that educators Mamabolo circuit, Limpopo Province of South Africa are not involved in the strategic planning or DoE meetings practise to the initiatives to improve learning of Physical Geography in Grade 12 as part of their daily activities and therefore policies to expose them to responding to implementing the initiatives should be found. Even the heads of department in schools also indicated that they do not hold on and off subject meetings which is very much important for debriefing of members.

From the information, it was viable to arrive at the following outcomes: is of the view that "Shulman's teacher knowledge base is relevant in gaining insight into the nature of learner performance and teaching of Geography in public secondary schools in South Africa; because it provides a wide range of elements that influence teaching as a profession, which have been confirmed through research to be one of the most influential elements in student achievement" (Anderson and Mundy, 2014; Caena, 2011; Center for High Impact Philanthropy, 2010; Knox & Anfara, 2013; Stronge, 2012; World Bank 2012).The willingness of an educator to initiate to improvements in learning of Physical Geography in Grade 12 is generally associated with an educator's behaviour, capabilities, motives and intentions. Hence this study was driven by Relevance of Shulman's theory.

Firstly, it revealed that educators are affected by several factors including level of experience, competition within them and within the schools, attitude of learners, technological conversance, behaviour, lack of motivation and nature of knowledge Geography as a subject. As shown by the ATP and NRTPs documents and structure in Table 4.10, there is complexity in the planning systems and it is difficult to interpret the lesson plan. As is highlighted by Shulman it is identified that "subject knowledge as a fundamental element in teaching because every teacher is expected to know the Geography subject matter they are meant to deliver" (Slekar & Haefner, 2010). Therefore, they are supposed to be conversant with Physical Geography. Some were also bounded by organisational structures in terms of teaching and learning; they were not permitted to initiate improvements in learning of Physical Geography in Grade 12.

Secondly, there was lack of access to teaching and learning and among educators and the management as well as the DoE. They asserted that the secondary schools

in Mamabolo circuit have bounded infrastructure and resources, the management is also out of reach, resulting in lack of formal and informal meeting spaces. Organizational factors also have an control in the initiation of improvements in learning of Physical Geography in Grade 12.

Thirdly, they revealed that initiation improvements in learning of Physical Geography in Grade 12 are not effectively executed due to attitude problems among the Geography educators in secondary schools in Mamabolo circuit. Junior educators were arguing that senior educators do not listen to them, and they do not consider their initiatives as valuable. According to Triandis 1977, his perspective pointed out that "individual factors, such as attitude, also have an influence on individual's intentions to exhibit certain behaviour such as initiation of improvements in learning of Physical Geography in Grade 12". Poor strategy such as the use of lecture method alone in improving the learning of Physical Geography in Grade 12 and verbal communication in the intermediation of learning was revealed to be the best way of improving the learning of Physical Geography in Grade 12.

On another note, the Geography educators for secondary schools in Mamabolo circuit unanimously agreed that the initiation of improvements in learning of Physical Geography in Grade 12 is motivated by the attitude and nature of the content knowledge to be shared. They said geomorphology, climate and weather knowledge is very challenging to share among educators and in between educators and or learners.

Lack of cooperation among the DoE was also brought forth as a social factor (norms, roles and self-concept) that influences the initiation of improvements in learning of Physical Geography though it was raised on a lighter note. Some educators beefed of being treated like second class educators. This echoed what (Tshiovhe, etal, 2018) said in the study of "learner performance in accountability for Grade 12 in the Vhembe District". When they share their initiatives, no one considers them sincerely but when others share no matter how insignificant their initiatives or knowledge is, they are praised. Mainly focusing on the side they are affiliated to, the senior educators and those educators in the school management teams and how they do receive resources they want from the school. This research also winds up that being initiative dependent on incentives. Even so, with education there are no incentives for being initiative. A

concern was raised by the majority that though incentives might be little, those who would have shared knowledge which leads to the improvement of learning Physical Geography are the ones who should receive them.

5.3 RECOMMENDATIONS

This study recommends that:

• DoE should encourage educators to distribute insight at all levels. To inspire the educators at school level, management to participate in distributing the initiatives to improve learning of Physical Geography in Grade 12.

• The study discovered that the educators at school level are aware of the initiatives to improve learning of Physical Geography in Grade 12 and the related benefits. Even so, the efficiency in the employment practice is insufficient in schools, hence meetings, school lectures and workshops should be managed on month to month for empowering educators about how to implement the initiatives to improve learning of Physical Geography in Grade 12 among educators.

• The findings also revealed that the participants know fitting planning can play a huge role in the elevation of productive channels of implementing the initiatives to improve learning of Physical Geography in Grade 12. On this note, the Department of Education should offer capacity building workshops that aim to empower educators at school level in knowledge sharing.

• The results showed that the current policies as implemented by the education officials at school levels for example, the exploitation of on and off school meetings, are not actually sufficient to answer to Physical Geography knowledge sharing considering some of the educators are afraid to raise their concerns, some have attitude towards one another which can affect knowledge sharing negatively. It is then advised that knowledge sharing should be embraced to empower the educators at school about policies to be embrased in sharing knowledge.

• In view of the present results, it is also recommended that DoE should improve the technological expertise of their personnel because as the world develops

technologically, concepts of weather and climate also develops, therefore it is imperative for DoE to develop the technological capabilities of its educators.

•	DoE should also introduce professional ethics which would guide the morals within the processes of implementing initiatives to improve learning of Physical Geography in Grade 12 amongst educators. The morals include honesty, trustworthiness, integrity and professional secrecy.

•	It is also recommended that the educators should be committed to promoting the processes of implementing initiatives to improve learning of Physical Geography in Grade 12 for it is part of their job and constitutes to their success in improving performance.

•	DoE should also launch skills development programs based on computers and technology as part of back to basics. The programmes should be made available for every educator on an equal capacity not on conditions of performance or seniority.

•	It is recommended that the processes of implementing initiatives to improve learning of Physical Geography in Grade 12 should be based on confidentiality, truth, nature of people, straightness and specificity of facts and the freedom and the reaction of recipients.

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APPENDICES

APPENDIX A (Data collection instruments)

DATA COLLECTION INSTRUMENTS

Semi-structured interviews will be conducted with four teachers from four schools preferably teachers with three years of teaching' experience. The interviews will be face to face. This study will also employ document analysis.

TOOLS: Pens, notebooks, desks, chairs, an audio tape and various documents from school and Circuit.

INTERVIEW QUESTIONS FOR TEACHERS
1. In which Grade/s do you teach Geography?
2. How long have you been teaching Geography?
3. Is Geography your area of specialisation?
4. What initiatives are you taking to improve the learning of Physical Geography in Grade 12?
5. Are those initiatives productive? Yes □ No□ Elaborate.
6. What type of support do you get from other levels of education?
7. In your view, what other initiatives can be applied to improve the current state of Geography?

DOCUMENT ANALYSIS

DOCUMENT ANALYSIS CRITERIA AT SCHOOL LEVEL
1. Teacher-learners ratio
2. Progress marksheets
3. Staff support services reports

DOCUMENT ANALYSIS CRITERIA AT CIRCUIT LEVEL
1. Results analysis for different years in the circuit
2. School visit schedules
3. National Examination results analysis records

APPENDIX B (Permission letter to the department)
Limpopo Department of Education
Private bag X 9489
Polokwane
0700

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN YOUR SCHOOLS

I hereby request permission to conduct research in secondary schools in Mamabolo Circuit for my Masters studies with the University of Limpopo.

The title of my research is "Initiatives taken by teachers to improve the learning of Physical Geography in Grade 12: The case of secondary Schools in Mamabolo Circuit, Limpopo Province, South Africa". I guarantee that research ethics will be taken into consideration.

Four teachers of Grade 12 Geography from each school, preferably teachers with three or more years of teaching experience, will be interviewed. The interview is planned to take 60 minutes.

For further clarity, you are welcome to contact me at cell: 063 298 5237 email address: masenyamanyaosalome@gmail.com

Thanking you in advance.

Yours truly

Manyako Salome Masenya

Signed student   signed supervisor

……………………..   ……………………………

APPENDIX C (Permission letter to the Circuit)

The Circuit Manager
Private bag X 1108
Sovenga
0727

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN MAMABOLO CIRCURT SECONDARY SCHOOLS

This letter serves as a request to conduct research at your schools.

The title of the study is: "Initiatives taken by teachers to improve the learning of Physical Geography in Grade 12: The case of secondary Schools in Mamabolo Circuit, Limpopo Province, South Africa". I guarantee that research ethics will be taken into consideration.
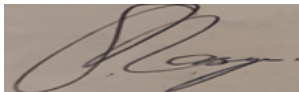
Four Grade 12 Geography teachers from each school, preferably teachers with three or more years of teaching experience, will take part in the study. The interview isplanned to take 60 minutes.

For further clarity, you are welcome to contact me at cell: 063 298 5237 email address: masenyamanyaosalome@gmail.com

Thanking you in advance

Yours truly
Manyako Salome Masenya (student)
Mpho Modipane (supervisor)

Signed student   signed supervisor

……………………..   ………………………………

APPENDIX D (Permission letter to the School)

The Principal

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN YOUR SCHOOL.
This letter serves as a request to conduct research at your school.

The title of the study is: "Initiatives taken by teachers to improve the learning of Physical Geography in Grade 12: The case of secondary Schools in Mamabolo Circuit, Limpopo Province, South Africa". I guarantee that research ethics will be taken into consideration.

Four Grade 12 Geography teachers from your school, preferably teachers with three or more years of teaching experience, will take part in the study. The interview isplanned to take 60 minutes.

For further clarity, you are welcome to contact me at cell: 063 298 5237 email address: masenyamanyaosalome@gmail.com

Thanking you in advance

Yours truly

Manyako Salome Masenya (student)

Mpho Modipane (supervisor)

Signed student   signed supervisor

…………………………..   ………………………………

APPENDIX E (Informed consent)

TO WHOM IT MAY CONCERN

INFORMED CONSENT

I …………………………..hereby agree to take part in the study regarding Initiatives taken by teachers to improve the learning of Physical Geography in Grade 12. I volunteer to participate in this study. I know that my participation is not compulsory, that I have the right to excuse myself from the study should I wish to do so. Furthermore, I understand the confidentiality regarding my name and comments.

Should I encounter problems I have full contact details of the relevant personnel. I grant the researcher my permission to record my responses during interviews and I fully understand what is required of me.

Participant signature: ………………………………….
Date: ……………………………………
Researcher's signature: …………………………………
Date: …………………………………………..

University of Limpopo
T.W Molotja (PhD)
School of Education
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2391/0736266621 Email:wilfred.molotja@ul.ac.za

TO WHOM IT MAY CONCERN

This letter serves to confirm that I, **Prof T.W Molotja** of the Department of Language Education (English Language Teaching), School of Education, University of Limpopo, have proofread and edited the research report for **MANYAKO SALOME MASENYA,** Student number **201204783**

entitled:

INITIATIVES TAKEN BY TEACHERS TO IMPROVE LEARNING OF PHYSICAL GEOGRAPHY IN GRADE 12: THE CASE OF SECONDARY SCHOOLS IN MAMABOLO CIRCUIT, LIMPOPO PROVINCE, SOUTH AFRICA

The research report is edited focusing on the following**:**

- Coherent writing.

- Eliminating spelling errors.

- Fluency in reading.

- Academic writing.

I therefore recommend for its submission.

Yours Sincerely   Date: 16/12/2021