



The Demand and Supply of Secondary School Teachers in the Western Cape

By

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Abstract

Education has become an area of concern both in South Africa and the rest of the world. As a result there has been an increase of about one per cent on the average number of learners in South Africa schools (Collin, 2005), especially with the ‘education for all’ policy. Learner increase requires large numbers of teachers because they play a critical role in achieving the post-apartheid transformation and development agenda (Asmal, 1999). However, there are many disturbing reports that point towards large numbers of teachers leaving the education profession in both primary and secondary sectors. Many factors have rendered education an area of distress both in the Western Cape, South Africa and elsewhere in the world today. One of these factors is the mismatch between demand and supply of teachers which is arguably exacerbated by shortage of teachers.

The aim of this study is to (i) **uncover factors that influence demand, supply and shortages of teachers among a select Western Cape Secondary Schools** in order to (ii) **primarily explore mechanisms and strategies that the selected schools employ for combating teacher demands, supply and shortages**. The question following from these aims is: “How do some secondary schools in the Western Cape manage the tensions created by demand, supply and shortages of teachers?”

The study employs the qualitative research method that has utilised an exploratory research design to meet the research objectives. Secondary school teachers, principals, ex-secondary school teachers and deans/directors of schools/faculties of education make up the target population for this study. The sample constituted thirty participants that were purposefully and conveniently selected.

The finding in the study reveals that teacher demand and supply in the Western Cape is influenced by similar factors that occur elsewhere in the world. However the schools employ many ways to deal with teacher shortages, some of which are preventative or curative of the problem of teacher shortages. What is worth-noting is that since public schools in Western Cape are owned and funded by the provincial government, principals are limited in what they can do as most of the strategies require a high level of monetary commitment.

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Chapter One

Introduction

1.1 Introductory Remarks

Our society is becoming increasingly unpredictable especially as we find ourselves living in a very complex and volatile society, where even the pace of change is so fast that it becomes difficult to really predict its results or consequences as well as its future course. In this fast paced life, education is regarded as one of the crucial aspects towards meeting the demands of daily living. Despite the role of education in our society, it is on the verge of crises because of growing teacher shortages. Currently, there are about 60 million teachers in the world while about 15 – 35million others are needed to meet the priority goal of education for all by 2015 (EFA Global Monitoring Report, 2008: 11). At the root of these problems, is a dramatic increase in the demand for new teachers resulting primarily from two converging demographic trends-increasing student enrollments and increasing teacher turnover due to a graying teaching force. Shortfalls of teachers for example are forcing many school systems to resort to lowering standards to fill teaching openings, inevitably resulting in high levels of under qualified teachers and lower school performance (Ingersoll, 2006: 197).

1.2 Statement of the Problem

The demand of teachers is becoming more critical each year (Ingersoll, 2001). As far back as 1997, Secretary of Education, Richard Riley, estimated that schools would need to hire 2 million teachers during the next decade (by 2007) to replace retiring teachers and keep pace with growing enrollments. Some researchers and forecasters have considered such vacancies “warning signs of a looming teacher shortage, which by some projections could reach nearly 2.5 million” (Hurwitz & Hurwitz, 2005) in future. There are other factors that have rendered education an area of concern both in the Western Cape, South Africa and elsewhere in the world today. One of these factors is the mismatch between demand and supply of teachers which is arguably exacerbated by shortage of teachers. There is more than one way in which we could describe teacher demand and supply and the link thereof to shortages. This is what I turn to below.

1.3 Conceptualisation of the Problem

A review of existing research has made clear that any discussions around demand and supply require researchers to clarify related concepts. A concept that is intricately linked to demand and supply of teachers, as expressed in several studies is that of teacher shortages. In other words, a discussion of one of the three concepts implies the other two hence the need for the clarification of the three concepts with a special attention on their linkage.

1.3.1 Demand, Supply and Shortage of Teachers

There has been an increase of about one per cent on the average number of learners in South African schools (Williams, 2009:1), especially with the inception of the policy on ‘education for all’. As a result, teachers are needed in large numbers because they constitute the most important part of the education enterprise and play a critical role in the social, political and economic development and transformation of society. This need for teachers that matches a number of learner enrolments is described by Boe (2006:138) as **quantity demand** for teachers to fill available teaching positions. Demand for teachers varies from place to place and subject to subject, with the greatest demand occurring in rural as opposed to urban areas or in subjects such as mathematics, science, and inclusive education. This variation begets what is termed **quality demand** (demand for teachers with specific qualifications).

Because it is often difficult to find the appropriate and willing teachers to cover these critical areas – rural, maths and science, special/inclusive education – different levels of teacher shortages could ensue. This means while some might argue there is an over-supply of teachers; it is an overall picture that ignores issues of specialization and geographical location. Researchers and policy analysts no doubt have also stressed that shortages will affect some teaching fields more than others. Special education, mathematics, and science, in particular, have usually been targeted as fields with especially high turnover and those predicted most likely to suffer shortages (Ingersoll, 2006:279). **Shortages** of teachers are defined as “the result of either exceptional high demand in relation to supply and/or exceptional low supply in relation to demand.

Supply of teachers on the other hand refers to the number of eligible individuals available from all sources that are willing to supply their services under prevailing conditions (Lindsay, Wan & Gossin-Wilson, 2009; Boe & Gilford, 1992). It is therefore the availability of teachers at any given time in schools according to Steiner and Schiller (2003). An inadequate supply of teachers in relation to demand inevitably results in a shortage” (Boe, 2006:138).

The implication therefore from the framework of teachers’ supply and demand is that any imbalance between demand and supply can technically be referred to as a shortage, in the sense that there is an inadequate quantity of individuals able and willing to offer their services under given wages and conditions. The theory of supply and demand holds that where the quantity of teachers demanded is greater than the quantity of teachers supplied given the prevailing wages and conditions then, there is a shortage (Ingersoll and Perda, 2009:36). It is therefore important and clear to note from the ongoing discussion that one cannot isolate or ignore teacher shortages when dealing with any study on the demand and supply of teachers.

1.3.2 Demand, Supply and Shortage of Secondary School Teachers in the Western Cape

In a research report by the Cape Higher Education Consortium-CHEC (2009) it is clearly stated that there is often a mismatch between subject specialization and level with teaching assignment in the Western Cape. Accounting for this mismatch at the Further Education and Training level (FET) are several reasons: (i) the present cohort of teachers were not trained for the new system and changed curriculum, (ii) some high school teachers have degrees or diplomas in the subjects they are teaching but are not accredited as teachers, (iii) some of the qualified teachers are not employed to teach the subjects they studied. In instances such as those mentioned by the CHEC report, a strong implication arises; that demand and supply of teachers is more often than not laced by some shortages. The shortages are quantity-related, some relate to both quantity and quality, while still others relate to quality only issues (Hurwitz & Hurwitz, 2005). Following this quantity-quality correlations in teacher demand and supply, one would agree with the argument expressed earlier that at the center of demand-supply of teachers, are teacher shortages.

1.3.3 The Role of Teachers in South African Society

Despite these shortages, the importance of teachers in society is unquestionable. In South Africa where teachers are considered key agents for achieving the post-apartheid transformation and development agenda (Asmal, 1999), the need for their services has never been greater. Based on their advantaged position as agents of socialization, teachers play a key role in the development of a new South African identity that appreciates and values diversity (HESA, 2006). Teachers are regarded as agents of socialization because they play a key role in the development of the image and identity of a new South African that honestly appreciates and values diversity. They also play a leading role in inculcating democratic ideals, promoting human dignity, equality and social justice. Teachers are naturally expected to help expedite the process of human capital formation generally. They are at the centre of improving the well-being of society (Higher Education South Africa (HESA), 2006; Jentz, 2009: 58; Peterson & Byron, 2008:789).

Taking teachers' role further, they are essential because they work with individuals from an ever increasing panorama of physical, mental, emotional, cultural, and social attributes; coping with administrative necessities (attendance records, educational plans, reports, meetings); and all the related activities associated with assessing pupil progress goals, objectives, performance criteria, tests, grades, parent conferences among others (William, 2002:365). The role teachers play clearly indicates that they are essential agents of social change. As such, teacher demand could widely affect the extent to which the Department of Education and secondary schools could help in the process of transformation.

1.3.4 South African Teachers in the Context of Demand, Supply and Shortages

There are many reports that point at teachers leaving the education profession in both primary and secondary sectors in large numbers. Some of the reasons advanced include job dissatisfaction, professional stress as a result of an increase in workload and the restructuring of the education system, financial-driven trimming of the educator corps, poor working conditions, absenteeism and death through HIV/AIDS, lack of teacher mobility and inadequate induction programmes (Baxen, 2010; Bennell, 2003; Ramrathan, 2003:164; Kelly & Brendon, 2003: 65 and Xaba, 2003:291).

Overriding all these problems, according to HESA, are fiscal issues in terms of limited funding which have plunged the majority of public schools into crises of resources, overcrowded classrooms, poor discipline and lack of learning ethos or good learning climate. At the same time, funding challenges especially high cost for the individual (those to enter the pre-service training) relative to the socio-economic profile of the historical pool of entrants to the profession, have been blamed for the decline in enrolments in pre-service training (HESA, 2006).

Migration of South African educators to Australia and England is singled out as one of the major factors contributing to the decline in educator availability especially given the strong demand for these educators by other English speaking countries since 1999 (De Villers, 2007:69; HSRC, 2003). Overall, HSRC indicates that the net loss of educators through migration has increased except during the period 2001 and 2002. The number of teachers required in any district depends largely on the pre-primary to Grade 12 enrolment growth patterns, the pace of teacher retirement and attrition, and the desired teacher-student ratios. Key subject areas such as mathematics and science seem to experience more setbacks as teachers migrate from the country (Kriek & Grayson, 2009:187; De Villiers, 2007:69). De Villiers (2007:69) gives a startling shortfall of 6000 schools which do not have qualified teachers in mathematics and science subjects.

Systemic factors such as policies on reducing class size, also contribute to the demand for new teachers (Yasin, 1998 & Boyd, 2005:10). The teacher/learner ratio informs the number of educators needed per school and according to resolution 3 of 1999, the accepted ratio stands at 40:1 at all primary and 35:1 at all secondary schools (Morrow, 2006). The reality though is that most schools have a teacher-learner ratio that far exceeds these recommendations (Gimbert, Cristol & Sene, 2007:247).

The problems stated above – increased learner population that leads to high learner to teacher ratio, high teacher attrition rates, absenteeism and death resulting from HIV/AIDS, and qualified teachers' migration to overseas schools – clearly present schools with challenges on ensuring consistency and mobility among their teaching force. While there are clear indicators

from this cursory review (Chapter 2, Literature Review, expands on most of the issues introduced above) on factors that impinge on teacher supply and demand, it is not given what mechanisms – both preventative and remedial – are implemented by schools when demand and supply for teachers are besieged by shortages.

1.4 Existing Research on Teacher Demand, Supply and Shortages

ELRC and HSRC (2003) carried out a study on Educator Supply and Demand in South African Public Schools in which they set out to explore teacher attrition and various reasons teachers might be leaving the teaching profession. Luis Crouch and Helen Perry (2003) in their paper, *Educators*, investigated the issues affecting the supply of teachers and offer forecasts of teacher demand and supply, constructed from a model. Cape Higher Education Consortium (2009) Educator Supply and Demand in the Western Cape investigated whether there is a balance between the number and type of qualified teachers entering and leaving the system each year, and whether all posts in public and special schools are filled by appropriately qualified teachers. The central focus in the mentioned studies was to increase understanding of the size, shape of teacher education and to uncover reasons of how and why individuals decide to train for, enter and leave the teaching profession.

The present study does not reinvent the wheel by solely investigating the factors that lead to supply and demand of teachers. The study assumes that such factors exist and therefore (i) explores the extent to which they are experienced in some schools in the Western Cape and (ii) seeks to uncover the mechanisms and strategies implemented by schools when they are faced with demand, supply and shortage issues. My main interest resides in exploring supply mechanisms and strategies that some of the secondary schools in the Western Cape employ in dealing with the apparent crisis in teacher supply or teacher shortages.

1.5 Study Aims and Questions

The aim of this study is to (i) **uncover factors that influence demand, supply and shortages of teachers among a select Western Cape Secondary Schools** in order to (ii) **primarily**

explore mechanisms and strategies that the selected schools employ for combating teacher demands, supply and shortages. The question following from these aims is: “How do some secondary schools in the Western Cape manage the tensions created by demand, supply and shortages of teachers?”

1.6 Significance of Study

Research has been carried on the demand and supply of teachers globally and in South Africa but no research has intensively looked at it in light of how schools and principals deal with teachers shortages, particularly in the Western Cape. The importance of this study like any other study on the demand and supply (CHEC, 2009: 2) is to support policy and planning in many areas such as bursary allocations and minimizing the gap between the demand and supply of teachers generally and specific areas especially given the turbulence to which teacher education has been exposed and the resulting state in which it finds itself. In this parameter, this study attempts to make the following contributions to the research body:

- This research study will provide insight on how some schools in the Western Cape respond to teacher shortages;
- It equally hopes to provide insight on the discourses on the determinants of demand and supply of secondary school teachers in the Western Cape.

1.7 Methodology and Research Design

Since the study sought to answer questions on (i) the factors that influence the demand and supply of teachers and (ii), the various ways schools responds in dealing with teacher shortages, the logical methodology and design had to be one that, firstly, would provide first-hand information from school managers or principals on how they deal with shortage. Secondly, I found it necessary to include perspectives of other stakeholders on their reading of factors that influence demand, supply and coping mechanisms when demand and supply do not meet. Such stakeholders are teachers in and out of the teaching profession, and deans/directors of schools/faculties of education in four universities in the Western Cape.

Four principals were interviewed and questionnaires were posted to deans/directors of schools/faculties of education. Questionnaires were administered to teachers in and out of the profession. The teacher sample for the study was drawn only from four secondary schools and from only two ex-secondary school teachers.

The preceding section has provided a preliminary review of what is to follow in detail in Chapter 3, Research Methodology and Design. Following is the clarification of central terms in the study.

1.8 Clarification of Central Terms

In this section I provide a descriptive overview of concepts that are central to this study. These are concepts that are explicated fully as part of the review of literature.

1.8.1 Demand, Supply and Shortage of Teachers

According to Steiner and Schiller (2003), **demand of teachers** or educators refers to the need for educational personnel to fill positions. In this study demand of teachers refers to the need for teachers in secondary schools.

Supply of teachers in this study is what Lindsay, Wan and Gossin-Wilson (2009) and Steiner and Schiller (2003) refer to as, the availability of teachers at any given time in schools.

Teacher shortages based on Boe (2006: 358) is the result of either exceptionally high demand in relation to supply and/or exceptionally low supply in relation to demand. An inadequate supply of teachers in relation to demand inevitably results in a shortage.

1.8.2 Student or learner/ teacher ratio

According to Kim, Kim and Han (2009:12) and in this study, the learners/teacher ratio is the average number of full-time study learners per full-time working educator.

1.8.3 Coping Mechanisms and Strategies

At a literal level, coping mechanisms is a phase used to describe the sum total of ways in which human beings deal with minor to major stressors and trauma. Borrowing and drawing from this definition, coping mechanisms is concerned with the various methods and ways applied by secondary schools in combating the imbalance in the demand and supply of teachers. The terms ‘coping’ and ‘dealing’ will then be used interchangeably in this work because both words speak of how schools manage the issue of teacher shortages from both preventive and remediative perspectives.

1.9 Structure of the Study

This thesis consists of six chapters. **Chapter One** provides a general orientation and identification of the study by contextualizing the research problem. Central to this chapter has been the establishment and understanding of the relationship between teachers demand, supply and shortages.

Chapter Two provides the background information to the study, presenting an overview of the global picture of the demand, supply and shortage of teachers. It highlights three theoretical perspectives in understanding the concept of teachers demand and supply. In general, it deals with the review of literature particularly on factors that influence the demand and supply of secondary school teachers and the various ways schools use in dealing with a situation where supply does not satisfy demand.

Chapter Three provides details of the investigating methodologies and procedures deployed in this study, as a basis of measuring the reliability and validity of the findings. The study made good use of both the quantitative and qualitative methods to help realise the aims and answer the question raised.

In **Chapter Four** the results of the research are presented. The chapter outlines the views of the respondents on the factors that influence both the demand and supply of secondary school

teachers. Finally, the chapter outlines the various mechanisms schools employ to deal with teachers shortages.

Chapter Five is the final chapter of the study. The chapter discusses the findings of the study, presents recommendations and conclusions based on the contribution of the respondents and the relevant literature. Furthermore, it identifies the limitations of the study as well as future research areas.

1.10 Chapter conclusion

This chapter presented an introduction of the entire study. It thereby dealt with the background to the study, statement of the problem, the aims of the study, the research design, and contribution to the research body, the structure of the entire work and it clarified the main terms used in the study. The core in the chapter however has been to establish the problem and clarify the link between teachers demand, supply and shortages. The next chapter will deal with the background of the study by providing literature on the factors that influence the demand and supply of teachers as well as the various mechanisms schools employ in dealing with teacher shortages.

Chapter Two

Literature review

2.1 Introduction

To recap, the overall aim of this study is to **uncover factors that influence demand, supply and shortages of teachers among a select Western Cape Secondary Schools** in order to **primarily explore mechanisms and strategies that the selected schools employ for combating teacher demands, supply and shortages.** The aim clearly calls for an understanding of research and literature on among others, factors that influence teacher shortages. Therefore, in this chapter I review theories and research on the factors that influence the demand and supply of secondary school teachers, as well as the ways in which schools handle the situation when supply does not satisfy demand.

The review of the literature will attempt to create a holistic understanding by locating the problem under investigation. The review could be used as a baseline for understanding and interpreting the results and informing conclusions that will be arrived at in the study. The rest of this chapter is organized as follows:

- Section 2.2 gives an overview of international and local trends on teacher demand and supply with special attention to the Western Cape;
- Section 2.3 looks at attrition as a contributing factor to demand and supply;
- Section 2.4 describes factors associated with the supply of teachers;
- Sections 2.5 and 2.6 discuss the theoretical perspectives of the study and its limitations ;
- Section 2.7 examines the possible solutions regarding the problem of teacher shortages and,
- Section 2.8 summarizes the chapter by pointing out crucial claims drawn from the literature.

2.2 An overview of international and local trends on teachers demand and supply.

The problem of demand and supply of teachers is a worldwide phenomenon that is affected by a myriad of factors. Educational policies seem to be linked to many of the factors regarding the demand and supply of teachers (Pipho, 1998:181). Underlying all the policy related factors seem to be measures that are used in projecting numbers of teachers that are required at any given time. The policies give direction on (i) types of institutions that can provide teacher training; and (ii) stipulated number of learner per teacher (or teacher-learner ratio in short). In addition to systemic issues like policies, teacher demand and supply is affected by personal factors such as individual interests and natural factors such as disease and death.

2.2.1 International trends

The United States National Council for Teachers' Statistics (NCES) project a 2.1% growth in demand for teachers in the country every ten years (Pipho, 1998:181). The results of their study further indicated that British Columbia would face a teacher shortage beginning in 2006 if not before. This projection is based on the number of new graduates annually certified by the college of teachers, the average retirement age of 59.7 and the likely reduction in teachers moving worldwide (from one place to the other) (Pipho, 1998:181).

The projected demand for teachers may outpace the projected growth in the supply of teachers. Some researchers and policymakers, for example in America, estimate that school districts will have to hire about 200,000 teachers annually over the next decade to keep pace with rising student enrolments and teacher retirements of a total of 2.2 million additional teachers (Fideler & Haselkorn, 1999). However, some researchers point out that shortages are limited to particular regions and communities and argue that there is not an over-all picture of teacher shortages. Moreover, in United States most of the new teachers are needed in the specific subject areas of bilingual education, special education, mathematics, and physics and chemistry (Darling-Hammond, Berry, Haselkom & Fideler, 1999).

2.2.2 Overview on the demand and supply of teachers in South Africa

There have been conflicting views about teacher supply and demand in South Africa. In 1995 a study was conducted by the National Teacher Educator Audit which found out that South Africa had an oversupply and overproduction of teachers during that period. The oversupply

was viewed as a result of low attrition rate (Hofmeyer & Hall, 1996:135). Based on the findings, a number of policies were implemented (HSRC, 2005). The policy changes gave direction to a variety of issues ranging from teacher training, teacher-learner ratio and so forth.

2.2.2.1 Teacher training institutions

The year 1994 saw 120 educator training colleges in South Africa which increased approximately to 150 public institutions when other institutions like universities providing teacher education were included. At the time, about 200000 student teachers were enrolled in these institutions and 80000 of these students were in colleges of education (Parker, 2003:18). In lieu of the teacher training colleges that were informed by the history of separate development, the White Paper 3 of 1997 set out a policy in support of the transformation of higher education through the development of a programmed-based higher education system, planned, funded and governed by a single coordinated system (DoE, 1997).

Using the Education Act of 1997, the Minister of Education established, amalgamated, and closed public Higher Education Institutions (HEIs). The closures and mergers of colleges led to a decrease in the number of institutions providing educator education. For instance, in the year 2000, about 82 public institutions were providing teacher education to 110 000 students. The policy of restructuring and rationalizing was completed by 2000, with the remaining 27 colleges being incorporated into the existing traditional universities and new universities of technology (Parker, 2003:18)

Today there are about 24 Higher Education Institutions that are concerned with teachers' education (South Africa Information, 2010; Ministerial committee on teacher education, 2005 & Parker, 2003). For example, this amalgamation has resulted in the realization of what today is called the Cape Peninsula University of Technology (CPUT) in the Western Cape as one of the institutions for teachers' training which trains one of the biggest numbers of pre-service teachers through its B. Ed and PGCE programmes. University of Cape Town (UCT), the University of Western Cape (UWC) and the Stellenbosch University (SU) are the other higher institutions in the province that train teachers.

Western Cape is an integral part of South Africa which is obliged to apply the national standards that are being set in all domains. There are only two qualifications that can be regarded as initial professional Education of Teachers (IPET) qualifications, namely the undergraduate Bachelor of Education (BED) and the post graduate certificate in Education (PGCE). The Bachelor of Education is currently a four-year undergraduate qualification and the PGCE is a one-year postgraduate certificate taken after completion of a first bachelor's degree. In fact, no other qualifications have, as their purpose, initial professional education of teachers (Ministerial Committee on Teacher Education, 2005). BEd (Honors) and MEd are postgraduate academic qualifications, and hence do not constitute part of the teachers supply of new graduates into the teaching profession (Ministerial Committee on Teacher Education, 2005).

The B Ed programme involves a lot of disciplines such as Mathematics, English, Biology and Chemistry. However, these subjects are not equally distributed as some subject areas have more student teachers than others. The result is that there will be plenty of candidates to teach in some disciplines while certain subjects suffer from acute teacher shortages, particularly Mathematics, Science, and Special Education (Andre, 2003).

In a study conducted in 2003 in the Western Cape Province, there was a projected need for 1900 individuals in the pre-service courses offered in 2003 in order to have a sufficient pool of teachers in the province in 2006. However, the actual numbers that entered training at the commencement of the year stood at 916 (Shisana, Peltzer, Zungu-Dirwayi & Louw, 2005). This is a mere 50 – 59% of the predicted needs for the year 2006. One of the key factors for the low enrolment figures is that the public at large does not fully appreciate the role that teachers must play in building the kind of society that is aspired (Park, 2006:144; Bot, 2005:8 & Andre, 2003).

2.2.2.2 Desired teacher– learner ratio

Teacher-learner ratio gives an idea of the number of teachers needed in a school. According to De Lannoy and Hall (2010) such a ratio is the average number of full time study learners per full time working educator. The national Department of Education (DoE), as a way of

equalizing educator resources, began the process of rationalization and deployment of teachers on the ground of Resolution 3 of 1996, adopted by the Education Labour Relation Council (ELRC). This agreement was based on the phasing in of a learner – educator ratio of 40:1 at all primary schools and 35:1 at all secondary schools (ELRC, 2005).

One of the major determinants of demand is the size of the school-age population, which is be more or less the same as the number of learners in school, and trends in learner numbers over a period. According to the latest available figures not all children in the Western Cape are in school; in 2006, the gross enrolment rate at primary level was 95% and at secondary level 86% (DoE, 2008).

According to DoE (2008), the number of learners in the Western Cape increased from 918 030 in 2001 to 978 517 in 2006, slightly down from a high of 980 065 the year before. The number of teachers increased steadily from 27 211 to 32 825 over this period, and the L/T ratio dropped from 33.7:1 to 29.8:1. Ordinary public schools enrolled 949 539 learners and employed 30 440 teachers, while independent schools enrolled 28 978 learners and 2 385 teachers.

Despite this specification on teacher-learner ratio in secondary schools, most schools do not comply with the criterion, of 35:1 learner– teacher ratio due to lack of resources such as teachers and, sometimes, lack of sufficient classrooms (ELRC, 2005). In addition, reasons like shortages of teachers in certain subjects have been cited as one of the reasons for over the norm number of learners per teacher (Grissmer, 1999).

2.2.3 Overview on the demand and supply of teachers in the Western Cape

The demand and supply of teachers in the Western Cape like in most part of the world has not been in an even position. The number of teachers in South Africa for example increased rapidly from the mid-1970s to the mid-1990s, from 143 632 in 1975 to 359 668 in 1996, in line with the rapid expansion of the schooling system. There were differences in learner-teacher ratios between schools for the different race groups. In the Western Cape, learner-teacher ratios ranged from 42.1:1 in African primary schools to 17.2:1 in white primary schools, and at

secondary level from 40:1 to 14.7:1 respectively (Crouch and Perry, 2003). What this means in effect is that while one might talk about an over-supply of teachers in some contexts, the reverse could be true. Schools that have predominantly black and coloured children in the Western Cape are reportedly under-staffed and under-resourced (DoE, 2008). There is a much higher number of learners with a much lower number of teachers in comparison to national teacher-learner ratio stipulations as recommended for both primary and high schools.

The programme of equalising the provision of teachers by the department of education during the 1990s saw a lot of changes. By 1998 for example, the number of teachers in areas of undersupply had been increased, but there was still an oversupply in other areas. The number of colleges of education were then reduced from over 100 to 50 by the department of education. Crouch and Perry (2003) conclude that these appear to have caused a further decrease in teacher training enrolments.

The number of teachers in the Western Cape dropped by 8.6% between 2000 and 2003 to 27 248, while the number of learners increased. Consequently, the learner/teacher ratio went up from 30.7:1 to 35.1:1 over this period. In 2006, there were 32 825 teachers in the Western Cape (including SGB-paid teachers),¹ and the learner/teacher ratio had dropped from 33.7:1 to 29.8:1 (DoE, 2008). Accordingly, the drop in the number of teachers signals an increase demand for teachers (teacher shortages).

Also important regarding enrolment is how learners across the different grades distribution. The table below shows that enrolment is highest in Grades 1-3 and in the first three years of secondary school (Grades 8-10). After grade 10 there is a sharp drop in enrolment. This means that many learners do not complete secondary schooling, and their chances of employment or gaining access to higher education are vastly reduced.

¹ School Governing Body

Table 2.1 Enrolment by grade in Western Cape public ordinary schools, 2006

1	91 082	10
2	85 124	9.3
3	89 768	9.8
4	80 485	8.8
5	78 112	8.5
6	73 561	8
7	65 892	7.2
Subtotal primary	564 024	61.7
8	82 481	9
9	83 566	9.1
10	86 136	9.4
11	58 152	6.4
12	40 459	4.4
Subtotal secondary	350 794	38.3
Total	914 818	100

Source: DoE, 2008

2.3 Attrition as a contributing factor to demand and supply

Attrition rate according to HSRC (2005) and Edelfelt (1996) is the rate at which educators leave the profession, and is a critical variable in the demand and supply of teachers (Darling-Hammond, 2010:18). South Africa is understood to be experiencing an estimated loss of 5% teachers per annum (Morrow, 2006). The highest attrition rate in 2002/03 in South Africa was in the Western Cape with a record of 6.5% (HSRC, 2005), when compared to the attrition rate in other provinces. Of the number of new teachers (1 405) who were appointed to permanent teaching posts between April 2003 and February 2008 in the Western Cape, only 519 were still in service in 2008, with 886 having left the employment of the WCED (Lewis, 2008). This view and observation would reflect a finding by Crouch (2005, in Arends, 2007), that the young, less qualified teachers leave the profession sooner than the more qualified and experienced teachers who tend to stay in the teaching profession. This trend could as well be

understood that if the supply of teachers does not meet the demand of teachers cause by teachers' attrition in this case, then a teacher shortage is bound to be experience.

Grissmer and Kirby (1987) propose variables such as compensation and working conditions, illness and death; job dissatisfaction; and job opportunities in and outside teaching as elements that cause teachers to leave. I expand on these factors below.

2.3.1 Working conditions and school climate

As far as working conditions are concerned, teacher loss is attributed to school climate factors such as a lack of administrative support, lack of collegial and parental support, and insufficient involvement in decision-making (Mensah & George, 2010 and Billingsley & Cross, 1991). The **quality of school leaders** is one of the reasons that might influence school climate and in turn teachers' decision to either stay or leave the profession. The leadership factor appears to be the most significant factor in teacher retention. The hallmarks of a good leadership climate include trust and respect within the school, fairness in evaluations, open communication and consistent support. Teacher satisfaction with leadership is the single greatest predictor of whether the school would meet the required progress and hence the determining factor of teacher retention (Luther & Richman, 2009 and Rothschild, 2006:1).

Principals can influence teachers' satisfaction and mobility decisions in many important ways. Principals and other school leaders can set the vision for the school, engender commitment to the vision and mission, galvanize organizational commitment, encourage high quality instruction, reinforce accountability, and foster positive interactions among teachers and between teachers and students. In addition, good quality of leadership can help establish an environment that decreases disruptions in the educational mission, and support teachers through consistent implementation of school rules and expectations (Thompson, Brown, Cunningham & Montrosse, 2008). Through their actions, principals can motivate teachers to put more effort into instruction, focus their attention on key components of the curriculum, and develop productive relationships with other teachers and students.

School climate influences informal conversation and foster school effectiveness and productivity (Deal & Peterson, 2009). School leadership influences the school climate in the ways they build their relationship with the teachers. Poor school climate increases job dissatisfaction and results in many teachers leaving a particular school (Ingersoll, 2006). Schools should therefore pay attention to leadership in order to maintain a good relationship with their teachers. A good relationship with teachers creates a safe, free and secure environment in their minds and hence, influences them to stay in those schools rather than leaving (Bush, 2009:731; Darling-Hammond, 2010:18 & Ingersoll, 2006).

An interesting school climate factor regarding teachers' attrition is **violence** and the perceived lack of peace in educational institutions. According to Munn, Johnstone, Sharp and Brown (2007), one of the hypothesized causes of attrition is violence experienced in and around the school premises. Results show that school violence is common and three major forms of violence experienced by teachers include instances where a learner or educator have been found carrying weapons into the educational institution, a person being assaulted and a fight involving weapons. They conclude that violent events at the educational institutions seem to have an impact on the morale and intention to leave the education profession, thus affecting the demand of teachers as most teachers tend to run away from those schools. When teachers feel consistent support from their school leaders and buffered from instructional disruptions, they may perform better in the classroom and continue teaching in the school.

2.3.1.2 A positive school relationship with community is another function for an encouraging school climate (Alton, 2007), and a good school climate increases job satisfaction which, according to Ingersoll (2001), reduces teachers' turnover. When schools receive substantial support from parents, this indicates that the surrounding environment is welcoming for teachers to stay in such a school. When teachers stay in a school without leaving, all things being equal, this reduces the problem of shortage of teachers. New teachers most often leave their first school because of the location and environment of their school. Alton's (2007) study found that about 44 percent of new teachers leave their first school within the first two years, basically because of the location of the school. According to the study conducted by Karen (2007:46), new teachers are bound to resign from their schools because of the location of the

school. Where schools are located in areas with gangsterism, the moral of teachers is most often affected negatively by gang activities. Teachers are sometimes booked off from school or even die because of stress relating to gangsterism at school.

2.3.1.3 Job dissatisfaction

Job dissatisfaction, which is derived from many variables, is considered to be the key element for teachers to continuously stay at school (Darling-Hammond, 2010:18; Nelson, 2008:5; George, Louw & Badenhorst, 2008; Hanushek & Rivkin, 2007:69 and Gimbert, Cristol & Sene, 2007). Job dissatisfaction can be as a result of many factors such as; the level of salary, personal factors as well as the school climate. Low job satisfaction is considered a good predictor of intention to leave (Ingersoll & Jeffery, 2010:7; Ingersoll, 2006; Crossman & Harris, 2006:30 and Mar Barak, Nissly & Levin, 2001:526). According to educator school survey in South Africa, high predictors for leaving the teaching profession are low job satisfaction, (lack of career advancement and recognition, teaching conditions in terms of working hours/load/policies, and lack of discipline and respect), career choice changes after three years of teaching, high job stress (problems with teaching methods and administration and problems with the educational system), (Hall, Alfman, Nkomo, Peltzer, & Zuma, 2005).

2.3.2 Job opportunities in and outside teaching

Another area of concern is job opportunities in and outside teaching when dealing with teacher shortages or otherwise the demand for teachers. In this light, Grissmer and Kirby (1987) emphasise that, there is a high propensity for teachers to leave teaching or their present job when they (teachers) find better pay jobs. Similarly, Ingersoll (2006; 204) supports the view that job dissatisfaction, or the desire to pursue another job in or out of education, is a factor not to undermine in dealing with teacher shortages. There is a more likely tendency for teacher shortages or the demand for teachers to increase when teachers have the desire for other jobs, especially when those jobs are better paid (Ingersoll, 2006:205).

2.3.3 Health related factors and death

While many kinds of health problems are regarded as important indicators that affect both the supply and demand of teachers, at present HIV/AIDS is considered the biggest threat (Nkwanga, 2009:45; Shisana, Peltzer, Zungu-Dirwayi & Loum, 2005; Bennel, 2005). The impact of HIV/AIDS in East and Southern Africa has been evident, where a case in point is a Zambian study that showed educator mortality as being 39 per 1000. In Malawi, the World Bank projected that 40% of education personnel would die of AIDS by 2005, while in Botswana the death rate from AIDS increased from 0.7 per 1000 in 1994 to 7.1 per 1000 in 1999 (ILO, 2004).

HIV/AIDS affects teachers at all levels, impedes the educational process, negatively affects the quality of education and heightens the risk of illiteracy (Mariti, 2010:12; Nkwanga, 2009:44; HSRC, 2005 and International Labour Organization, 2004). Long before infected teachers die, the effects of HIV/AIDS might have been felt through increasing levels of morbidity. Infected teachers will be absent for reasons including personal illness, trauma, and even death of other family members (Mobile Task Team, 2003; Bennel, 2003). Crouch and Perry (2003) state that Aids-related mortality among teachers is estimated to range from 3.5% per year in the best case and 4.6% in the worst case by 2015. Another South African study found that the teachers' mortality is expected to grow over time. If the normal attrition rate of 6%, observed in 1999, was to hold constant over time, then it is theoretically possible that gross attrition could climb significantly by the end of the decade (Badcock-Walters et al. 2003). The educator demand and supply model of 1999 in South Africa suggests that Aids will add to the existing high level of educator attrition and the cumulative attrition rate may require replacement of as many as 60,000 teachers in 2010 (HEARD, 2003).

2.3.4 Early retirement

Age related retirement is a natural progression in the labour market. When retirement comes earlier than the stipulated retirement age, it could have dire consequences on the concerned profession. In South Africa the retirement age in public schools is 60 (Shisana, et al, 2005).

Teachers are reportedly leaving the teaching profession much earlier than the age of 60 (Ingersoll, 2006). Holistically, retirement is creating teacher shortage (Robert, 2009:36).

Retirement implies shortages as vacancies are created when teachers go on retirement. According to Dillon (2009:16) and Jeremy (2008:1), retirement has to be considered a very important cause of teacher shortages in schools. For this reason, he claims schools need to restructure and modify retirement policies so that hundreds and thousands of the best veteran teachers can stay on in the classroom. Boe, Cook and Sunderland (2008: 8) discussing on teachers turnover (attrition), equally point out that retirement needs to be considered as one of the highest causes of teacher shortages hence, high demand for teachers.

In the Western Cape, the demand for teachers is also related to the age of teachers. An ageing teaching stock means a higher demand for new teachers as many will be retiring. In this regard, the proportion of younger teachers (those aged under 30) declined from just under a quarter of all teachers in 1997 to 8% in 2002 and to 6% in 2005. The proportion of those aged 40 and older increased from 29% in 1997 to 46% in 2002 and 51% in 2005 (Arends, 2007). This small percentage of younger teachers is in fact a matter of concern, as the supply of teachers to meet up with the demand for teachers will not be equal because of a high number of those retiring and a small number of those entering the profession. The age profile also has fiscal implications; the older the teachers the higher the average salaries, because a higher proportion of teachers is close to or at the top of the scale (Arnott and Chabane, 1995).

2.3.5 Migration

Supply of teachers in South Africa, like any other under developed nation in the world, is affected by the loss of well qualified professionals (teachers) resulting from national and/or international factors as developed nations turn to recruiting trained teachers from abroad (Boe, Cook & Sunderland, 2008:8). Migration may occur because of personal and professional reasons (Achinstein, Ogawa & Sexton, 2010:80; Borman, & Dowling, 2008:396). Where the former is concerned, it could be because of factors such as changes in family status (marriage); following a spouse to another region or country or the desire to explore other frontiers. On the latter teachers

might migrate because of departmental transfers; pursuit of professional development courses offered outside the present location and so forth (DoE, 2007).

Teacher migration can occur internally from one region to the other, from one school to the other or internationally from one country to the other. For example, teachers might leave Western Cape for other provinces (internal migration); move to a different school within the province; or migrate to Australia and England especially given the strong demand for these educators by other English speaking countries since 1999 (HSRC, 2003). This movement of teachers could impact negatively on countries like South Africa. Overall, the net loss of teachers increased by two thousand in 2003 as a result of external migration (HSRC, 2003).

The large-scale migration of families from rural areas into urban and metropolitan centres like Western Cape, which experiences an inflow from Eastern Cape rural areas (CHEC, 2009) might then increase the learners' enrolment rate which will likely increase the demand for more teachers. This increase in the demand of teachers as a result of an increase in learners' enrolment might result to teachers' shortage if there is no likely or corresponding increase in the supply of teachers.

From the foregoing discussion, three major factors influence teacher attrition: personal factors, external factors, and employment factors as summarized in Billingsley (1993:137). The personal factors of the model are the demographic, family, and affective portions of a teacher's career decision. The external factors include societal, economic, and institutional variables. Employment factors are professional qualifications, work conditions, and commitment. Employment factors such as unsupportive administrators may lead to a teacher's decision to leave the school (e.g., teacher transfers or quits) or a teacher's intent to stay.

2.3.6 Student enrolment as a factor to the demand of teachers

According to Esch, Chang-Ross, Guha, Tiffany-Morales & Shields (2004:13) and Wagne (2000), this is the key factor in determining the demand for teachers. "More kids" mean more teachers. There is a direct relationship between students' enrolment and the demand for

teachers. HSRC (2005) indicates for example that maintaining the current standard for South African learners to educator ratio of 40:1 and 35:1 in primary and secondary education respectively, a net enrolment of 97% would require about 319 704 to 336 159 teachers in 2008. If the previous and projected trends continue, and the projected demand for teachers is taken into account, there would be a shortfall of about 150 990 teachers by 2008. However, if the learner to educator ratio was 35:1 for both primary and secondary school teachers, then the projected demand would imply a shortfall of around 320 000 to 340 000 teachers by 2008 (HSRC, 2005). This however gives a clear message of how the supply of teachers does not meet up with the demand of teachers where schools have to experience teacher shortages.

According to ELRC (2005), enrolment of learners is influenced among other factors by fertility rates, migration, and policy on age of admission and financial resources to support appointment of and availability of space for learners. When fertility rates decline, the number of Grade 1 learners enrolling also declines; when there is increased migration from rural to urban areas, the number of learners enrolling in Grade 1 will decrease in rural areas; and when the DoE introduces a policy to keep learners' ratios at a specific level or changes the age at which learners are allowed to enrol in Grade 1, enrolment of learners will also change hence affecting the demand for teachers. It is certainly true that with an increase in students' enrolment figures, especially with the policy of education for all in the Western Cape and South Africa, there is need to increase teacher supply, which apparently is not the case, as most young people do not want to go into teaching. This however results in the problem of shortage of teachers.

2.3.7 Teacher/learners ratio as a contributing factor to the demand for teachers

According to Kim, Kim and Han (2009:12) the teacher/learners ratio is the average number of full-time study learners per full-time working educator. Grissmer (1999) indicates that policies aimed at lowering pupil/teacher ratios have been an important factor in creating demand for new teachers on the one hand, because this will call for more classes which will result in more teachers being needed. On the other hand, when schools gear towards bigger classes, the number of classes will reduce, thus few teachers will be needed. Gonzalez (1995:2) examined

the influence of class size on the demand for teachers and concluded that when classes are big; this increases the workload for teachers and increases their tendency to leave the school.

Class size is changeable, a factor which most often schools use when faced with teacher shortages. Learners move and are sometimes taught in more flexible groups for some subjects (Kim, Kim & Han, 2009:12). It has been pointed out that, despite the increase in the demand for teachers that small class size bring, they also make a difference in pre-primary and initial primary education and have positive results to changes in the teaching methods and classroom organization (Siniscalco, 2001).

2.6 Factors associated with the supply of teachers

In this section I examine factors that are specifically attributed to changes in teacher supply.

They are:

- The enrolment rate of pre-service student teachers
- Destination of the new graduates
- Learning area choice of student teachers
- The graduating number
- Personnel retained from the previous year

2.4.1 Pre-service student-teacher enrolment

Students' enrolment into teacher education helps promote the supply of teachers (Steiner & Schiller, 2003), but Ministerial Committee on Teacher Education (2005) found a low enrolment of students into the field of education. According to their survey several factors are attributed to this trend of low enrolment such as lack of bursary support, teachers discouraging learners from taking up the profession, perceived lack of discipline at schools, unattractive salaries and increased opportunities in other fields. The general economic labour market theory of demand and supply as adapted by Haggstrom, Darling-Hammond, and Grissmer (1988) points out that it is the relative attractiveness of teaching to other professions that will influence the rate of teachers leaving the profession or the rate of people coming into the profession. This attractiveness is based on the current and future salaries of the teachers.

On a similar trend, Darling-Hammond (1997) and Hurwitz and Hurwitz (2005:328) concur that increasing or equalizing teachers' salaries can help in retention and curb the teacher shortage. Raising salaries will certainly increase the teaching pool, as it will attract more young college graduates to the profession. Pre-service student-teachers enrolment is in fact seen as a major factor that determines the supply of teachers (Steiner & Schiller, 2003; Hurwitz & Hurwitz, 2005:328).

Student enrolment into education also depends on the manner in which the general public views teaching or their perception towards teachers. According to Stokes (2007) the attitude of the general public towards teachers and teaching as a whole greatly influences the number of students enrolling into teaching. To him, this could discourage some of the enrolled students even when they become teachers and lead to lower satisfaction levels and perhaps contribute to increased resignations.

Much of the above applies to the Western Cape. In 2003, Premier, Marthinus van Schalkwyk, said that the Western Cape needed 50% more teachers (14 324) in order to meet the needs of its children. In 2003, 1 900 student teachers should have been enrolled in order to meet needs in 2006, but there were only 916 enrolled (Cape Higher Education Consortium, 2009). This element indicate the magnitude of teacher demand and it gives a picture of the impact student teacher has on the supply of teachers.

2.4.2 Destination of the new graduates

The places at which new graduates prefer to live and work matter when analysing teacher supply and demand. Some may go for further studies, some graduates will move to the industrial sector, others may migrate to other countries in search of a better life while others may join other professions, especially if the pay is relatively better (Kings, 2003:10; Dolton, 2003). According to Steiner and Schiller (2003), the supply of teachers is greatly influenced by the number of graduates that finally goes in for teaching.

Emphasizing on new education graduates, Ramrathan (1999) conducted a tracer study with 300 educator graduates from the faculty of education, University of Durban Westville. Ramrathan's study indicated that 89% found employment as teachers in their year of graduation and 11% did not enter the education profession. In a similar study, Geysers and Wolhuter (2001) surveyed 84 education graduates from 1968 to 1998 from the faculty of education (Rand Afrikaans University). They found out that 34% of teacher graduates were still practicing as teachers, 6% never practiced as teachers and 59.5% had left teaching after an average of 9.5 years.

2.4.3 Learning area choice of student teachers

There are many differing teaching subjects in secondary schools that student teachers specialise in. These subjects include Mathematics, Biology, English, History, Physics, and English Literature, among others. Most student teachers go for other subjects (History, Languages and technology) rather than Mathematics (Brown-Peters, 2001). According to Kriek and Grayson (2009:191) the state of Mathematics and Science education in South Africa is a reason for concern. The number of Grade 12 learners who pass Physical Science and Mathematics on Higher Grade, a requirement to enter into science-based studies at university, remains very low. The low number of mathematics students depicts the low number of student teachers that takes Mathematics as their teaching subject. This low number of student teachers in Mathematics reflects the future supply level or needs for Mathematics teachers (Kriek & Grayson, 2009; Pandor, 2006).

2.4.4 The graduating number

Teacher supply in South Africa is also adversely affected by the drop in the number of student teachers over the last decade, especially in the period 1990 to 2001, in which the numbers declined roughly from 100 000 to 13 000. Consequently, fewer graduates have entered the teaching profession over the last decade, causing a detrimental effect on the age profile of teachers in South African schools (Bot, 2005:8). According to the DoE (2006:10) the numbers of graduates from the initial teachers' training program greatly affect the supply of teachers.

In line with the above, in 2007, the Western Cape's four Higher Education Institutions(HEIs) enrolled 3 691 undergraduate teachers, fewer than a quarter of whom were graduating four-year students, not enough to replace teachers lost annually through natural attrition (about 1 500 a year) and excluding the impact of HIV/AIDS (Cape Higher Education Consortium, 2009). Concern is shown on the impact or the influence of the number of student teachers graduating on the supply of teachers.

2.4.5 Personnel retained from the previous year

Historically, as advanced by HSRC (2005), as well as by Steiner and Schiller (2003), the largest supply of teachers is the previous year's workforce. Steiner and Schiller (2003), for example stated that in Illinois, 89% of the previous year's educational workforce was employed in the same position in the school year of 2003. Another 4% was retained in Illinois public schools, but in a different position. This implies that not all the previous year teachers are retained as some will become administrators thus creating vacancies in schools as shortages are experienced.

In the next section I examine specifically common theoretical explanations that are used for interpreting issues of teacher shortages, demand and supply.

2.5 Theoretical perspectives

In order to enrich the literature on the question of how secondary schools deal with teacher shortages, I briefly examine three major perspectives as follows:

- (i) The general economic labour market theory of demand and supply as it relates to schools;
- (ii) Grissmer & Kirby's (1987) theory of attrition and;
- (iii) Dibbon & Sheppard's (2001) notion of globalization.

2.5.1 The general economic labour market theory of demand and supply

The general economic labour market theory of supply and demand has been applied specifically to teacher labour markets by several major researchers in the field like Boardman, Darling-

Hammond & Mullin (1982); Haggstrom, Darling-Hammond, & Grissmer, (1998); Hanushek, Kain & Rivkin, (2004). In this viewpoint, both the decisions of prospective teachers to enter the profession and of practicing teachers to remain in one school, move to another, or leave the profession are shaped by the balance between the number of teaching positions available at a given level of overall compensation and the number of qualified people willing to teach at that level of overall compensation.

Overall compensation includes not only current and expected salaries, bonuses, and benefits, but also all other types of rewards derived from teaching, including intrinsic personal satisfaction (working with children, opportunities to be creative, contributing to society) as well as the benefits of working under certain conditions (summers off, autonomy within the classroom). The labour market theory implies that what governs teachers' decisions in the Western Cape secondary schools and elsewhere to stay, move, or leave teaching is the relative attractiveness of their current position compared to all other available positions. The theory therefore implies that schools which are financially under-resourced might always lose out to those with stronger financial muscles. In this sense, the relative attractiveness of a job affects the extent to which a teacher will be in the supply pool. Once the job loses its relative attractiveness and the teacher probably decides to venture to another school or district, quantity demand to fill the gap generated in such a context so that the supply stays in balance. The question is, are financial benefits the only reason that could keep teachers committed to a particular school? In addition, what measures are taken by schools when teachers follow the drift of overall compensation?

2.5.2 Theory of attrition

The theory of attrition holds that, deciding to stay in teaching depends upon certain interdependent variables; firstly, the degree of human capital required doing a specific job in a specific location; secondly, changes in family status (marriage, divorce, spouse moving to another job and childbirth); thirdly, compensations and working conditions; and fourthly, job opportunities in- and outside of teaching (Grissmer & Kirby, 1987). The variables lead to a predictable U-shaped curve that is tied to their life cycle and career stages. Earlier, the desire to leave occurs because of job changes, work conditions, graduate school and later in one's career due to retirement, illness, and death. This gives an idea that retirement, illnesses, death and

working conditions such as class size for example are part of the factors that move the demand for teachers.

Grissmer and Kirby's (1987) theory presents a critical analysis of the way teachers can be retained when they recommend that, policy aimed at retaining teachers be focused on the first five years of the teacher's career. The longer one remains a teacher (up to five years), the more likely one will not retire from teaching. This will be enhanced by the support given to them by the administrators, other teachers, students and the community, promotion opportunities, benefits, working conditions and compatibility of work demands with family and leisure needs. The more support he gets, the less likely he will abandon teaching. What remains unexplained in this theory is a critique of factors that push teachers out of the profession and ways in which schools, principals and/or governing bodies manages shortages which occur despite the preventative measures implied by the theory of attrition.

2.5.3 Influence of globalization on the demand and supply of teachers

For Dibbon and Sheppard (2001), globalization is the driving force behind societal and economic change which includes, among others, changes in teacher supply and demand. Globally, the matter of teacher demand is a complex issue and it increases in complexity when you consider how it varies by grade, subject area, gender, district, location and population. The variations are facilitated by and are a facilitator of the new technologies that are constantly transforming the workplace, and just about every other aspect of society. These new technologies are moving schools from traditional resource-based schools to knowledge-based schools where teachers require highly specialized skills such as mathematical and scientific skills. These skills are in demand around the world and so-called knowledge teachers have a wide choice as to where they want to work.

The marketability of rare skills professionals has increased migration of teachers which could have far reaching consequences especially on the demand and supply of school teachers. When teachers cross international boundaries a gap is left that should be filled by someone else. In equal terms, one would assume that globalization might impact on the demand and supply of teachers in the Western Cape in similar ways. Maree (2009:208) and Manik (2009) alluded to the

fact that globalisation allowed teachers with scarce skills from developing countries to fill gaps in the labour market in developed countries such as Britain. To them, globalisation is removing barriers (physical barriers) and sharing and exchanging knowledge and skills between countries. For example, the new graduates might be lured into more lucrative opportunities that are available elsewhere in the world. Though this work on globalisation has provided some insights, to fully understand the nature of the teacher labour market it is no longer adequate to view the situation solely from a local perspective. While globalisation implies the complexities of the demand and supply of teachers within the discourse of living in an interconnected world, the question that remains unclear is how Western Cape secondary schools close the gap that is brought by the desire to move to greener international pastures.

2.6 The limitations of the three theories

The three theories (i) the general economic labour market theory of demand and supply, (ii) theory of attrition and (iii) globalization identify the causes of demand for teachers and teacher shortages which, among others, include migration that is brought about as a result of globalization, attrition brought about as a result of many factors such as the attractiveness of other jobs and school environment or climate. However, what the theories do not spell out are the ways in which schools manage the situation when confronted with teacher shortages.

2.7 Possible solutions on teacher shortages

The foregoing sections have examined specifically the factors that influence the demand and supply and common theoretical explanations for such factors. Implicit in the influences and explanations are possible solutions that schools could implement in dealing with teacher shortages or when the supply of teachers does not satisfy the demand for teachers. This is what I turn to below.

On exploring factors that account for teacher shortages and possible solutions of the problem, Darling-Hammond (2010:17) makes clear that recruiting and retaining good teachers involves multiple strategies. First, departments of education should focus on high quality teacher

preparedness that is balanced by a clear understanding of factors that attract teachers to stay in their jobs. Factors that in Darling-Hammond's opinion supersede many are (i) salaries, (ii) working conditions, (iii) teacher preparation, and (iv) mentoring and support. Strategies should involve a combination of localised (school) and national efforts at the centre of which is sound school leadership (Bush, 2009:571).

Liu (2007:114-115) lists measures that schools could implement to ensure that they attract and keep good teachers. These are:

- Providing higher salaries and/or better fringe benefits;
- Improving opportunities for professional advancement;
- Dealing more effectively with student discipline and making schools safer;
- Giving teachers more authority in the school and in their own classrooms;
- Increasing standards for students' academic performance;
- Providing better resources and materials for classroom use;
- Decreasing class size;
- Giving special recognition and/or special assignments to excellent or outstanding teachers;
- Reducing the paperwork burden on teachers;
- Providing more support for new teachers (e.g., mentor teacher programs);
- Increasing parent involvement in the schools;
- Reducing teacher workload;
- Providing merit pay or other pay incentives to teachers;
- Improving opportunities for professional development;
- Providing tuition reimbursement for coursework required for certification or career advancement;
- Revising health insurance program to include stress reduction seminars, counseling, and physical fitness options.

What becomes clear from this list is that solutions to teachers' shortage involve many approaches or dimensions. Liu (2007:114) concurs with Darling-Hammond on the view that

higher salaries and/or better fringe benefits are some of the strategies that schools could use in keeping teachers. The problem with this strategy is that public schools in South Africa are not wealthy and teachers in such schools are paid by the state and not principals and school governing bodies. Therefore, even if principals want to prevent attrition through higher payment it is more of a dream than something they can actually do.

It has become more certain that teaching is inexplicably attracting less desirable candidates while losing the most desirable ones. In addition, the most qualified teachers are not necessarily in the schools or education profession where they are most needed (Ramrathan, 2003). Diagonally, the world nations, states, local districts, schools are faced with the challenges of meeting the increased demand for teachers while at the same time ensuring a quality education for students. Schools have to employ strategies in order to do away or remove the obstacle (shortage of teachers) that continues to strike the corners of the school at any material moment (Lisa, 2001). I have decided to pay attention to the specifics below which have to do with solutions at (i) school level, (ii) national level, and (iii) international levels

2.7.1 Solutions at international level

All over the world, fewer conventional college students are enrolling in education courses, while more veteran teachers are retiring from the field and newer instructors are leaving after only three to five years in the classroom. This gives the right story of the debacle faced by schools (teacher shortages). However, as we shall see below the various policies are utilized in dealing with teacher shortages.

An obvious solution to teacher shortages is salary increases for all teachers because teaching does not compare favorably with other professional opportunities available to talented individuals. When the teaching profession is comparable to other professions there is a likelihood of most teachers remaining in teaching and more students encouraged to enter the profession (Darling-Hammond, 2010:18; Ramrathan, 2003).

A more similar and promising solution is to break away from pay schedules that are based almost entirely on degrees and experience. Inflexible salary schedules are unfair to many talented

teachers. In order to attract teachers to subjects and schools where their expertise is in demand, they need to be paid better, not only compared with jobs in other professions, but also compared with teaching jobs in more affluent schools and subject areas where there is no shortage. Such moves not only speak to basic supply and demand problems in education, but also recognize that talented young people are not attracted to jobs that reward longevity and hierarchy instead of performance, initiative, and special skills and responsibilities (Ramrathan, 2003).

As mentioned earlier, Ingersoll (1997, 2001 & 2006) argues that one of the reasons for teachers leaving the department is based on the organizational factors within a school – low salaries, lack of support from administrators, student discipline issues and lack of input and decision making power. In order to solve this issue and maintain a low profile on the demand for teachers, schools try to hire teachers and motivate them with increasing paid salaries. However, it should be noted that not all schools can afford to increase teachers' salaries as such schools could (i) be run by the state (ii) those schools that are economically poor, the school governing body might try to get parents to pay higher fees.

Retirement is a factor advanced for teachers leaving the profession hence, that is why a Lexington 1 teacher commented that "I've come (to) the time of my life that I would actually wish to spend more time with my family" (Woodson, 2008). In fact, schools and departments of education in other countries are continuously working on a mix of retention incentives - including competitive pay, professional development, mentoring and retirement deferrals to keep veteran teachers around just a bit longer. Such incentives include allowing teachers to retire but still keep their jobs for up to five years and still receive a full pension. Benefits like these reduce the number of teachers leaving the profession and thus influencing the supply of teachers as this reduces teacher shortages (Woodson, 2008; Liu, 2007:114 & Gursky, 2001:17).

Meeting teacher shortages could be seen as being two fold. Firstly, finding enough teachers by broadening the net for attracting applicants and secondly, getting teachers in skilled technical fields such as science, computers, math and language requires that premium salaries be paid (Leeuwen, 2010). This promotes the attractiveness of teaching and motivates more people into teaching.

Alternative certification programs also provide a fast track for mid-career professionals and retirees who may be less inclined to return to college and pursue a traditional education degree. This is more flexibility to recruit and hire teachers, especially in the urban districts with large minority populations that have been hardest hit by the teacher shortage. Decoupling certification from employment would bring education more in line with most other professions, where certifications are used to build skills and enhance employability rather than as barriers to employment. While it is stylish to suggest that teacher education should be more like law or medicine, that ignores substantial differences between the disciplines, not the least of which is the absence of a canonical body of knowledge that all practitioners must have (Leeuwen, 2010).

2.7.2 Solutions at national level

Teacher shortage is a national problem. As such, the department is investing resources in the initial education of teachers through a much expanded programme of funding for student teachers, who, once qualified, will enter into teaching contracts with their provincial education departments (DoE, 2007) When the number of new entrants to initial teacher education increases, supply of teachers will certainly increase and this will help deal with the dilemma of teacher shortages.

The National AIDS and Education conference held in Midrand, Gauteng, in May 2002 confirmed the urgent need to increase the supply of teachers because of the evidence of a decline in national student-teacher numbers (Lewin & Stuart, 2003). Based on this, the department is investing large funds on loans and bursary programmes. An example of this, according to the Department of Education (2007), is the National Student Financial Aids (NSFAS) that loans funds to able students whom would otherwise be deprived of a higher education. The department has launched the national Funza Lushaka Bursary programme, in collaboration with the Provincial Education Departments, Faculties of Education and NSFAS.

The provision of these bursaries probably accounted for the doubling in first-year student enrolment between 2006 and 2007 (Morrow, 2007 in Lewis, 2008). The Funza Lushaka bursary scheme prioritises applicants who aim to teach in the Foundation Phase those training

to teach indigenous languages and other scarce skills areas such as Mathematics, Science and Technology (Macfarlane, 2007). All these measures, according to the department, are to increase the supply of teachers in order to deal with increasing demand for teachers and teacher shortages.

The Department of Education is equally engaging on a responsible, strong marketing campaign to raise the visibility, attraction as well as the challenge of teaching as a career for the brightest of the young people across the nation (DoE, 2007).

2.7.3 Solutions at school level

Schools are said to implement policies in dealing with teacher shortages. Schools, according to Ingersoll and Jeffrey (2010; 14), involve most of their experienced staff in the monitoring of new teachers. Perceiving that newcomers or teachers are often given the worst equipment and facilities as well as the most difficult schedules and classes, they now (schools) try to make new teachers be gradually eased into the system by first giving them lower workload. This policy encourages teachers where they find the school as a place to be rather than leaving the school which leads to teacher shortages (Ingersoll and Jeffrey 2010; 14). In a similar voice, Gilles, Davis & Mc Glamery (2009; 45) noted that induction programs for new teachers help them to stay longer in the profession.

Retaining of veteran teachers by schools is shown as one of the strategies schools employ in dealing with teacher shortages. Schools may restructure and/or modify retirement policies in order for the many veteran teachers to stay on in the classroom (Dillon, 2009). Teachers that are otherwise supposed to be on retirement are once again deployed to teach, thus solving the problem of teacher shortages and reducing the demand for teachers. One of the ways schools keep veteran teachers is by giving them encouraging packages. This method continuously keeps teachers in schools, that is why Dillon (2009) emphasises the need to keep veteran teachers as a means of solving teacher shortages. In South Africa, this strategy would have a higher success rate with richer schools, most of which do not constitute the bulk of public schools.

Schools are continuously creating awareness to their students, parents and the public at large of teaching as a good career. In this light, Cape Peninsula University of Technology for example has developed a marketing strategy where marketing officers get involved in visiting high schools, and speaking to matric students about teaching as a good career. This is meant to increase the number of students or the enrolment rate of pre service students. The higher the enrolment rate of pre service students, the higher the probability of the supply of teachers to increase. In this dimension Superintendent of Public Instruction Washington (2004) indicated that pre service student-teachers' enrolment is an indicator of the supply for teachers. An increase in student teachers enrolment, all things being equal, indicates increases in future supply of teachers and a solution to teacher shortages.

One very important mechanism schools employ in dealing with teacher shortages, is by identifying potential capable teachers among student teachers practicing at their schools. In most instances, student teachers practising in the teaching of mathematics are employed as soon as they finish with their programmes. Liu (2007:114) emphasises the need for schools to formulate policies in order to deal with teacher shortages. Andrews, Evans, & Miller (2002) for example applauded that teacher preparation programs (like teaching practice) have become a major focus point for obtaining teachers for the field of special education, and many school districts and universities work in collaboration to fill positions that need qualified special education teachers.

The merging of classes could be another strategy or mechanism schools use in dealing with teacher shortages. In a situation where there is no teacher to fill in a vacancy, schools reasonably merge the classes to solve the problem of shortage of teachers. In such a circumstance, Grade; 4A, 4B and 4C could be combined to have one teacher Patty (2008:2). This is always in a short run until the vacancy is filled as many problems are associated with this (increase in workload and discipline problem which emerge from over populated classes). According to Patty (2008:2) classes need to be combined and teachers to even teach outside their area of expertise in order to cover any shortage(s).

In similar situations like that mentioned above or rather in extreme situations, the classes are left without teachers. In such conditions, the students are bound to go home or roam the school corridors. According to Saikou (2007), students will be left unattended when the situation becomes serious, especially when more teachers leave. Consistent with Saikou's opinion, Lauren (2010) mentions that students are bound to roam around because they have no schedule and teacher.

The establishment of scholarships for students who might be interested in teaching as a career is an interesting strategy employed by some schools in dealing with teacher shortages. Schools give help to attract most students into teaching by offering them scholarships. When aspiring students find that they can have scholarships should they take on teaching as a career, this will motivate most post-matric students to go into teaching. This obviously increases the numbers of those entering into the profession and thus, the supply of teachers will likely increase, and this consequently solves the problem of teacher shortages DOE (2007). Decisive measures are required to increase the number of young people in initial teacher education, improving the success rate, encouraging more newly qualified teachers and making them available for employment as teachers or educators after graduation. The Fundza Lushaka Bursary scheme is for students who wish to obtain a teaching qualification (DOE, 2007).

An important factor that schools are considering or focusing in combating teacher shortages, is improving school leadership such as the organization of seminars and conferences for school principals and administrators. This has been supported through a survey by Rothschild (2006) which proclaimed that the quality of school leaders is the top reason teachers stay in the profession. When school leaders create a good climate at school, it becomes a favourable place for teachers to stay thus minimizing shortage of teachers.

Teacher turnover is a function of teacher job satisfaction, morale, and commitment. These factors are, in turn, influenced by features of school organization within the supervision of principals such as teacher discretion over classroom decision-making, teacher influence over school-wide policies on matters such as discipline, and administrative support (Ingersoll, 2001; Stockard &

Lehman, 2004). When job satisfaction is attended to, teachers turn-over is minimized and so is the shortage of teachers (George, Louw & Badenhorst, 2008; Ingersoll, 2001).

Educational policies seem to be the root cause regarding the demand and supply of teachers. Increasing the supply of teachers for example depends on significantly increasing the number of new entrants to initial teacher education, improving the success rate, encouraging more qualified teachers to teach and successfully maintaining the recruitment pressure year after year (DoE, 2007).

It is suggested that one of the primordial reasons for most teachers leaving the profession is that education is managed by people who do not know much about education (William, 2002:365). Teachers for instance need to be paid satisfactory salaries or market related salary which is one of the ways some schools are using to keep them, especially because they are responsible for motivating and nurturing the dreams and ambitions of generations. They need to be paid because they produce the world's doctors, lawyers, farmers, nurses, legislators, presidents, beauty pageant winners, Nobel Prize recipients, professional athletes and teachers. People should go into teaching for the money and if individuals 'elected' to become teachers because of the financial rewards, there will be no teacher shortage (William, 2002:365).

William (2002) suggests that the solution to education is for it to have good management and good policy makers such that teachers will be able to have interest in teaching and thus reduce the rate at which they leave the profession. This links with Haggstrom, Darling-Hammond, & Grissmer's (1998) teacher labour market idea that both the decisions of prospective teachers to enter the profession and of practicing teachers to remain in one school, move to another, or leave the profession are shaped by overall compensation which includes not only current but expected salaries, bonuses, and benefits.

2.8 Chapter conclusion

This chapter has reviewed literature on (i) factors that influence demand and supply of educators; and (ii) possible solutions that could be implemented at a national and school level

to ensure that schools have an adequate supply of teachers. Where the former is concerned, it is clear that a myriad of factors affect demand and supply of teachers. Examples are teacher – learner ratio and class size, retirement and health related problems, among others. On the latter, several solutions are proposed. As was noted, while some of the solutions are attractive, they might not work in the South African public school sector because most of such schools have limited resources. The next chapter focuses on the procedure and the method employed in collecting data as a means of measuring the reliability and validity of the findings.

Chapter Three

Research Methodology

3.1 Introduction

According to John (2008:5) and Kumar (2005:2) any research involves the application of various procedures and methods. Babbie & Mouton (2001:7) reiterate a similar thought by pointing out that the quality of research findings largely depends on the methodological procedures showed in the study, while its validity largely depends on the manner in which data has been collected.

In the discussion that follows a clear and detailed account of how this study was conducted is given. I discuss in detail the selected research design and methods used to gather, analyse and interpret data for this study. In addition, issues of validity, reliability and ethics relating to the research process are clarified.

3.2 Problem

The study is about factors that influence the demand and supply of secondary school teachers. In particular, the study seeks to establish mechanisms implemented in secondary schools when there are teacher shortages or when supply of teachers does not satisfy the demand for teachers. In order to answer the questions posed in the study, data had to be produced through the involvement of secondary school teachers (presently teaching and those that have left teaching), school principals as well as deans and directors of teacher training institutions. Towards this end, I administered qualitative questionnaires and conducted interviews in order to solicit information from the identified sample. Secondly, literature on the question of teacher shortages has been examined to provide background secondary data, in particular, factors influencing both the demand and supply of teachers are discussed at length.

As regards the second question of how schools deal with teacher shortages, data had to be produced from secondary school teachers and school principals. To achieve this, questionnaires were given to active teachers while interviews were conducted with teachers that had left

teaching and with school principals. It was regarded necessary to include voices of teachers who have left the profession because they could provide an insider- outsider perspective. In addition, it was envisaged they might suggest coping strategies which are linked to factors that push teachers out of the profession- solutions which could be applicable long after they have left the profession.

The evidence yielded from principals, teachers and deans/directors of teacher training schools/faculties will guide me into reaching conclusions. To this end, the data goes through a process of analysis that involves; preparing and organizing data, exploring and coding database, describing findings and forming themes, interpreting the meaning of the findings, and validating the accuracy of the findings (Creswell, 2008:243). Given the scope of the present project, (a research project towards the M. Ed degree), and the methods of investigation, the following are sought:

- a clear articulation of the problem;
- Direction for further studies or research, which seeks to ask and pursue the issue through further empirical research.

What follows is a detailed explanation of the research design and methods implemented in this study.

3.3 Research design, method and units of analysis

This is primarily a qualitative study that has utilised an exploratory research design to meet the research objectives. The methods and instruments for collecting data are both qualitative and quantitative. Qualitative method of research is aimed at the social phenomena and getting a holistic inquiry while in the quantitative method, answers are processed to produce numbers or percentage of people in different categories according to the make-up of the sample and structure of the questionnaire giving particular answers (William & Stephen, 2005). The exploratory design is regarded as the most appropriate as it has as its primary objective the development of insights into the problem. The problem in question here is to (i) **uncover factors that influence demand, supply and shortages of teachers among a select Western**

Cape Secondary Schools in order to **(ii) primarily explore mechanisms and strategies that the selected schools employ for combating teacher demands, supply and shortages.**

Interviews and questionnaires have been used in seeking (i) to establish factors that influence the demand and supply of teachers, and (ii) exploring mechanisms that are employed by schools when there are teacher shortages or when the supply of teachers does not satisfy the demand for teachers.

Interviewing had to be used because it is a distinctive research technique used as a means of gathering information that has direct bearing on the research objective. It is also used as an explanatory device to help identify variables and relationships. Interviews were considered one of the most appropriate methods of data collection as they afforded the researcher the opportunity to hold face-to-face conversations with individuals who could best provide information on the *what* and *how* of the research problem (Creswell, 2008: 395). The *what*, as stated earlier, involves factors that influence demand and supply while the *how* requests information on mechanisms schools implement when faced with teacher shortages.

The use of questionnaires in the study on the other hand can be justified on the basis of the fact that it is a tool through which participants can supply basic personal or demographic information about themselves (Creswell, 2008). Questionnaires were therefore used for collecting mostly personal information about participants (teachers and ex-teachers) that might help in shedding more clarity to the problem as it will be explained later under the research process. In the case of heads/directors of faculties/schools of education questionnaires were administered to collect data on factors that influence supply of student teachers within their schools. Information about student teachers was regarded necessary as it directly has a bearing on numbers of teachers in schools. We now turn to a description of the participants.

3.4 Target population

A target population is a group of individuals who have the same characteristics that the researcher can identify and study (Creswell, 2008:152), hence the target population for this

study in order relevance includes; teachers, principals, heads of teacher training institutions, and teachers that have left the teaching profession. In this regard, the research was aimed at first, gathering opinions from heads of teacher training institutions on the factors that influence the supply of teachers and, secondly, from teachers (both current and those that had left). The researcher’s focus was on gathering factors that influence the demand for teachers. Secondary school principals were involved with the main aim of exploring and understanding the types of mechanisms that schools employ when the supply of teachers does not meet or satisfy the demand for teachers.

3.5 Sample, sample size and sampling procedure

The sample is a smaller group or subset of the population that is involved in a study. It is the subset and a representative portion of the population from which the researcher intends to generalize the results (William & Stephen, 2005). Any knowledge gained is representative of the total population under study (Louis & Lawrence, 1994: 87). However, since this is a qualitative study that examines the problem within a very specific sample as indicated above, generalisability is largely limited to these contexts. This limited generalizability does not rule out the possibility of other researchers and similar populations being informed by the study.

The sample size of this study is thirty (30) participants constituting twenty (20) secondary school teachers, four (4) heads of teacher training institutions, four (4) secondary school principals and two (2) ex-teachers of secondary schools.

Table 3.1: Sample size

PATRICIPANT	NUMBER
Heads of teacher training institutions	4
Secondary schools principals	4
Secondary school teachers	20
Teachers who have left the profession	2

The aim of the strategy of having twenty secondary school teachers was to have different responses of teachers from different localities, the various regions are; the Northern suburb, Southern Suburb, Cape Flat and Cape Town central. One school was conveniently selected from each of the regions and the result yielded four schools in total.

Table 3.2: Results of secondary schools selected in the various regions

Region	Numbers
Khayelisha	1
Bellville	1
Wynberg	1
Cape Town	1
Total	4

A combination of sampling methods was used in establishing different subsets of the sample. Where school principals and teachers past and present were concerned, convenience sampling was employed. A convenient sample refers to a non-probability sampling technique in which the respondents or subjects are selected based on their convenient accessibility and proximity to the researcher (Creswell, 2008:154). That means the subjects are selected because they are easiest to recruit. Since there are four universities that are involved in initial teacher education in the Western Cape, purposive sampling strategy was employed as it implied that the deans and directors of schools and faculties of education were the most appropriate members of the population within teacher training institutions to address some of the questions the study was asking.

3.7 Research procedure

3.6.1 Interviews with secondary school principals.

Four principals from the schools that were selected were automatically selected to be participants and were individually interviewed. The primary objective of interviewing these

principals was to primarily explore mechanisms and strategies that the selected schools employ for combating teacher demands, supply and shortages.

I visited the schools on the 2nd and 3rd of September 2008 where I had to introduce myself, familiarize myself with the environment and seek the principals' permission and consent to do the interviews. They were given the permission letter that I was issued by the Western Cape Education Department (a copy of this letter is attached in Appendix B) to conduct research in Western Cape schools and the one that I had written seeking their permission (see Appendix C). I made the second trip to re-emphasize my intentions and the date and time for interviews were set. I left them copies of semi-structured interview. This was meant to help them prepare for the interview and not to be caught by surprise during the interview. Prior to the day of the interview, I made calls reminding them of the interview. On the 11th and 12th of September, the interviews were conducted with the various principals. The principals provided me with a list of all the teachers in the school from which I did a convenient sampling of the teachers' base on proximity to involve as respondents to the research. They also gave me the opportunity and space to conduct research at their respective premises.

3.6.2 Data collection involving secondary school teachers

The teacher sample was conveniently selected from the lists provided by the principals. Five teachers from each of these schools were selected and they expressed willingness to participate in the study. The selection was based on their proximity. Five teachers from each school were requested to participate and all showed and expressed the willingness to be involved. Data from teachers was required to present evidence that could be used in answering the two questions in this study. First, teachers presently in the profession are ideally positioned to provide information on factors that influence them to stay in the profession and thus enhance retention. Teachers could also provide evidence that could validate what principals reveal as mechanisms that schools use in dealing with teacher shortages or when supply of teachers does not satisfy the demand of teachers.

The teachers were consulted and I explained that while I needed their participation in the study, they were free to decline or pull out any time they so wished. Thereafter those who were willing to participate (all) were issued with questionnaires. A cover letter was attached to the questionnaire explaining my intentions (see Appendix E). They were given more than a week in order to have time for reading and completing the questionnaire and a call was made to each of them reminding them of the questionnaire.

Teachers were expected to drop the questionnaire at the principal's office or, if possible, post them to me. All the questionnaires were filled-in by the respective teachers and were handed in, though not all met the deadline agreed on earlier.

3.6.3 Ex-teachers of secondary schools

In consultation with the various school principals, names of teachers that had left teaching, together with their addresses and phone numbers, were given to me. Data from ex-teachers was deemed necessary as it would assist in answering the question on factors that influence the demand. In line with the reviewed literature, it was anticipated that the ex-teachers would corroborate evidence that could further explain those factors that influence attrition. Two of these ex-teachers were selected and a letter was posted to each of them explaining the study (see Appendix D). Calls were made of my intention to pay the visit and these were granted.

Two visits were made. The first one was aimed at self-introduction and the respondents familiarizing themselves with me while the second one was aimed at the interview. The reason for interviewing them was because they are of age and might be hindered by their sight should questionnaires be used. On the first visit, I gave them a semi-structured questionnaire for the interview. Prior to the second visit, another call was made to each of these interviewees to ensure that the interview, all things being equal, took place on the designated date and time. It should be noted that the letters were posted on the 4th of September and visits were planned for the 10th and the interviews for the 17th of September 2008. The interviews were conducted in a relaxed atmosphere and they were a face-to-face format which created more flexibility.

3.6.4 Heads of teacher-training institutions

With the selection of the heads of the teacher-training institutions, because only four Universities are in Cape Town (Cape Peninsula University of Technology, University of Cape Town, University of Western Cape and University of Stellenbosch), all of them were purposefully selected. The reason for selecting all the four universities was to have a more diverse and comprehensive view of the factors that influence the supply of secondary school teachers from the perspective of teacher trainers. Each of these deans or directors of the schools or faculties of education in the various universities was consulted and a letter given to them explaining everything. A period of one week was given for them to respond to the questionnaire. Three of the respondents posted their completed questionnaire prior to the required date of collection.

3.7 Ethics

Educational research often involves people as participants in experiments or respondents to surveys. Since human participation is involved, ethical and legal considerations are of paramount importance. In this light, Louis and Lawrence (1994) point out that as a researcher, one must take into account the effects of the research on participants, and act in such a way as to preserve their dignity as human beings.

The research participants' anonymity was protected and confidentiality was maintained because these elements, according to Frankfort-Nachmias & Nachmias (1992), are very important to be considered in conducting research. Towards maintaining anonymity of the respondents, their names and those of their institutions are not revealed in both findings and the discussion that follows. For example, names of teachers training institutions will be replaced with teacher training institution (TTI) 1, 2, 3 and 4 with no disclosure of what acronym represents which institution. In addition, the pronoun he/she will be used for all participants as a way of concealing identity in cases where it would be easier to tell whose opinion is being referred to.²

² Head of departments/Directors/Deans would be the easiest to work with.

It is important to note that I made sure the participants understood what I explained and were afforded opportunities to ask questions for clarity. Hence, the informed consent³ document was written in simple, plain language. Each potential participant was fully informed as to the nature and purpose of the research and provided with a statement indicating that confidentiality and anonymity was to be upheld.

Researchers need access first to the research site and then to the individual participant (William & Stephen, 2005). In view of this I asked for permission from the Western Cape Provincial Education Department. This was granted, and a time frame set from the 1st September 2008 to the 26th of September 2008 (This permission letter is attached in the Appendix B).⁴

According to the rules of the Western Cape Education Department, one has to apply for permission from the department to conduct research in schools in the province. The application for permission was accompanied by my research proposal which clearly stated the data collection procedures. My application was approved subject to the following conditions:

- Principals, Educators and learners were under no obligation to assist me in my investigation;
- Principals, Educators, learners and schools should not be identifiable in any way from the results of the investigation;
- I had to make all the arrangements concerning my investigation;
- Educator's programmes were not to be interrupted;
- The study was to be conducted from 1st September 2008 to 26th September 2008; and
- No research was to be conducted during the fourth term as schools were preparing and finalizing syllabi for examinations (October to December).

Based on the conditions above, my appointments were during their lunch time or after school hours as not to interrupt any school programme.

³ Informed consent is seen as the procedures in which individuals choose whether to participate in an investigation after being informed of facts that would be likely to influence their decisions'. This involved four elements: competence, voluntarism, full information, and comprehension (Frankfort-Nachmias and Nachmias (1992).

⁴ The permission from the Western Cape Education Department is to gain access to the schools.

I requested the approval from the principals and heads of teachers training institutions (this was a face-to-face meeting). With access granted, the questionnaires were given to the teachers that were randomly selected. Attached to these questionnaires was a cover letter (a copy of this is found in Appendix E)⁵ which used as a mechanism for explaining the aim of the study participants' rights, and the data collection methods and instruments that would involve them. The letter points out the issue of confidentiality and anonymity.⁶ This means that the identity of the participant or respondent from whom the data were obtained is not disclosed.

With the ethical issues described above in mind, no research participant was coerced into participating in the data collection process.

3.8 Data collection methods and procedures

3.8.1 Primary data

Primary data in this study includes survey questionnaires and interviews. Reasons for deploying these methods are explained below.

3.8.2 Survey questionnaires

The researcher used survey questionnaires that contribute to the investigation of the study.⁷ The respondents of the questionnaire were: secondary school teachers as well as heads of teacher training schools/ faculties in four Universities in the Western Cape. Factors that influence the demand and supply of teachers were investigated using this method and the questions were made up of selected-response and open-ended items. The selected responses were to enhance consistency of responses while the open ended items allowed the individual more freedom of response because certain feelings or information might be revealed that would not be forthcoming with selected response items.

⁵ According to William & Stephen (2005), a cover letter is an n essential part of any survey involving a questionnaire.

⁶ Bogdan & Biklen (2003) said confidentiality and anonymity are part of the guideline for meeting the legal and ethical requirements for conducting educational research.

⁷ According to William & Stephen (2005) this is one of the methods used in data collections

3.8.3 Interviews

An interview is a distinctive research technique used as a means of gathering information that has direct bearing on the research objective (William & Stephen, 2005). It is also used as an explanatory device to help identify variables and relationships. Structured and semi-structured interviews were conducted with school principals in order to (i) corroborate evidence gained through the review of literature and (ii) gain new knowledge about factors that influence the demand for teachers, particularly the reasons that prompt them to leave the teaching profession. In addition, through the interviews I aimed to explore coping mechanisms employed by schools through principals when they are faced with teacher shortages that occur as a result of many reasons.

Two ex-secondary school teachers and four principals from secondary schools in the Western Cape were interviewed. Most importantly the ex-secondary school teachers were interviewed to give first-hand information as to what reasons are behind teachers' decisions to leave the profession. In both cases of structured and semi-structured interviews, the participants were randomly selected, meaning that every member of the population had a nonzero probability of being selected for the sample.

3.8.4 Secondary data

Secondary data was used to provide background information and a theoretical context to the study. It included books, journals, articles, internet and reports which have a bearing on the subject of the study. A case in point was the use of the internet in searching for the list of secondary schools in Cape Town and their contact numbers. The computer was also used to manage textual data, for the storage and retrieval of information.

3.8.5 Technical instruments

The following are technical instruments used during the research work:

- The internet for searching the list of secondary schools in Cape Town and their contact numbers while computer was used to manage textual data, for the storage and retrieval of information;

- E-mail was used in receiving documents such as the number of teachers in some of the schools, and an approval letter from the Education Department in the Western Cape to conduct research in randomly selected schools;
- A tape recorder was also used to record the interviews and then to transcribe the tapes; and
- Telephone was equally used in booking and confirming appointments.

3.9 Data analysis

This is a stage where data is summarized, manipulated, and reduced so they can provide necessary information that will assist in answering the two research questions (Krathwohl, 1993). The analysis of data involved multiple steps. These are described below.

3.9.1 Transcription

After the completion of each interview, I transcribed the tape recordings on the ground of noting not only the literal lines or statements but also the non-verbal communication. This process helped me to move closer to understanding meanings implied by the data in as far as the two research questions are concerned. The tapes were listened to over and over in order to ensure accuracy of the transcription.

3.9.2.1 Phenomenological reduction

According to William & Stephen (2005), phenomenological reduction requires the researcher to suspend his/her own meaning and interpretation and enter into the world of the unique individual that was interviewed. In the case of this exploratory study I suspended whatever knowledge I had about how schools elsewhere deal with teacher shortages. What was crucial during the analysis was an understanding of how the teachers and principals who were interviewed deal with the problem of teacher shortages within the specific context of their schools. The specific mechanisms employed were allowed to emerge from the respondents instead of framing the interview questions on models used elsewhere. Several steps are involved in phenomenological reduction (Giorgi, 2008b). These are listed below.

- Extrapolate general meaning from the description;
- Recognise units of meaning emerging from the description;
- Develop the content of units of meaning to acquire an in-depth understanding of the material; and
- Synthesise the findings of the units of meaning with respect to the phenomena under consideration and describe the typical structure of the phenomena. This is actually the last stage of phenomenological reduction.

3.9.2.2 Application of phenomenological reduction

Extrapolation of general meaning

Extrapolation of meaning involved examining the interview and questionnaire data in order to familiarise myself with the data and get an initial sense of its meaning. For example, the interviews were listened to, transcribed and reread in order to form an initial opinion of the principals on the types of strategies they use when they are faced with teacher shortages.

Formulating units of meaning

Once I had familiarised myself with the data, I then proceeded to the next step of formulating units of meaning. Units of meaning relevant to the research question(s) were delineated from the general unit. This involved for example scrutinising general unit or a full response to a particular question such as “What are some of the ways employed by your school to remedy the shortages created when teachers do leave?” that was asked to the principals. Some of the principals went into lengthy answers on what they did and these answers were examined with the purpose of marking out different ways in which each principal deals with teacher shortages. A general unit in this case is the entire content of the verbatim identified from the participant’s perspective.

Developing the content of units of meaning to acquire an in-depth understanding of the data

Once the units of meaning were extracted from all the responses per question (e.g. the responses of the four principals to the first question), the next step involved developing themes of contents of meaning. This involved a constant comparison of all the responses for similarities and differences (Mosito, 1999). Those responses that felt or sounded similar were

grouped into one theme. For example, the category of factors that influence the demand for teachers consists of student unruly behaviour, the absence of professional progress and heavy workload. After this, a friend had to verify the above procedure in order to check if we could come up with similar meanings or themes.

I had to group units or items of relevant meaning together and determine themes from these clusters. This is a process of developing categories of concepts and themes surfacing from the data collection (Louis & Lawrence, 1994). This was the stage of actually making meaning from the data. A summary of each individual interview was then made in which I had to incorporate the themes that had been elicited from the data then, the themes were finally contextualized. An example is the theme of attrition which emanates from many reasons that cause teachers to leave their profession such as migration, diseases, unattractive salaries and school climate.

Synthesis of themes and description of phenomena

The final stage of analysis involved a discussion of the themes and clarifying ways in which the research questions asked were answered or not. The analysis that is presented justifies the reliability and validity of the findings.

3.9.3 Validity

Validity according to William & Stephen (2005) can be maintained through honesty, depth, richness and scope of the data achieved the extent of triangulation, objectivity of the researcher, careful sampling and the participant approach.

Coding of the raw material was done by two persons independently. I asked a friend of mine who is a teacher to code the data and finally we compared our codes. There were some disagreement on some codes but at the end of the day we got to an agreement on the majority of the codes.

All the participants of this research are knowledgeable about teachers' experiences which is the concern of this thesis. They were therefore best informants and their data was given more

weight. Ex-secondary school teachers had the experience and put to the fore what transpired during their teaching period especially on the factors that influence the teacher attrition.

3.10 Challenges encountered

The process of research was marked by limitations which are typical of many studies. For example, the turnover period of questionnaires in some instances took longer than it was desirable.

3.11 Chapter conclusion

This chapter has explained the methods and the process through which data in this study was collected. In this light, qualitative method which utilised an exploratory research design were used. The target population were secondary school teachers, principals, ex-secondary school teachers and deans/directors of schools/faculties of education. The sample constituted thirty participants that were purposefully and conveniently selected. Questionnaires and interviews were used as techniques for data collection and, above all, there were ethical considerations. The next chapter presents findings of the study.

Chapter Four

Findings

4.1 Introduction

This study examines factors that influence the supply and demand of teachers, with the main aim of exploring the mechanisms employed by schools when they are faced with the problem of teacher shortages or increase in the demand for teachers. The previous chapter described the research design and methodology which was used to conduct this research. In this chapter the findings of the study are presented. The findings are presented both quantitatively and qualitatively. The former is a graphic presentation which is either in tabular or graph form depicting numbers of participants and their responses to particular questions. The qualitative presentation is the initial reading of the findings in terms of what seems to be salient findings which will be discussed in the following chapter. The rest of the chapter is organized as follows:

- Section 4.2 presents the biographic information on the participants in the study;
- Section 4.3 outlines the responses of secondary school and ex-secondary school teachers on the factors that influence demand for teachers;
- Section 4.4 presents heads of teacher-training schools/faculties responses on the factors that influence the supply of secondary school teachers;
- Section 4.5 reports on secondary school principals' responses on how their respective schools deal with the problem of shortages of teachers;
- Section 4.6 isolates themes that have emerged from the findings; and
- Section 4.7 concludes the chapter.

4.2 Biographic information on the participants in the study

Prior to presenting the findings on factors that influence the demand for secondary school teachers, biographic information of the participants involved in the study is presented below.

Table 4.1: Total sample size

Participant	Number
Heads of teacher training institutions	4
Secondary schools principals	4
Secondary school teachers	20
Teachers who have left the profession	2

Table 4.2: Distribution of teacher sample per subject area

Schools				Teachers	Subjects
A	b	c	d		
0	2	1	1	4	English
1	0	1	0	2	History
0	0	0	1	1	Life Orientation
1	1	0	0	3	Business Economics
0	0	2	1	3	Arts and Culture
1	0	1	1	2	Tourism
1	0	0	0	1	Mathematics
0	2	0	1	3	Accounting
1	0	0	0	1	Technology

Tables 4.1 and 4.2 show that twenty teachers from four schools (A, B, C and D), and two ex-secondary school teachers were some of the respondents in the study. They were included in order to derive factors that influence the demand for secondary school teachers. In addition, four principals from the four schools where the teacher sample was derived, and four heads of departments/faculties of teacher training institutions, also participated in the study.

4.4 Secondary school teachers and ex-secondary school teachers' responses on factors that influence the demand for teachers

In order to derive data on factors that influence the demand for teachers, two ex-secondary school teachers were interviewed (see Appendix F) and twenty secondary school teachers were asked for information through questionnaires (see Appendix E). It was necessary to find out from the teachers their satisfaction levels about the profession. The figure below shows their ratings.

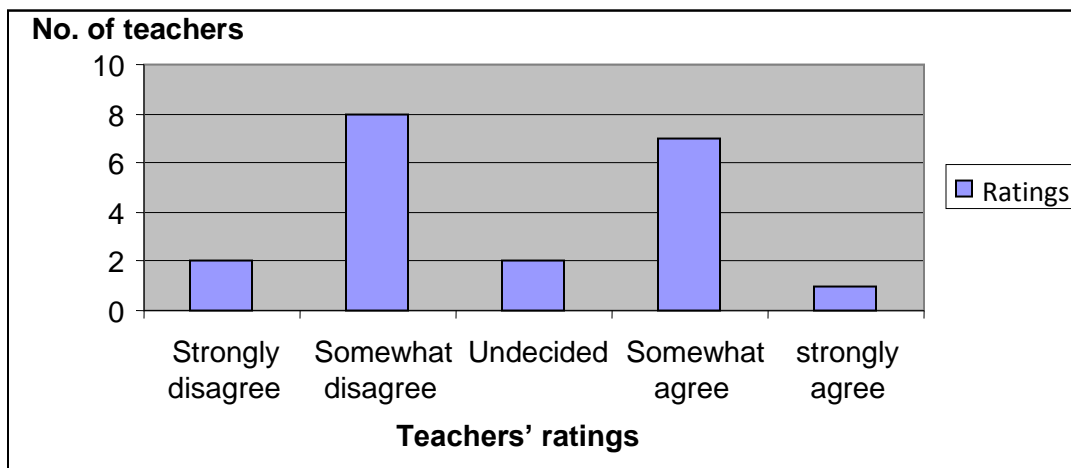


Figure 4.1: Teachers' satisfaction about the profession

From figure 4.1 it is clear that numbers of teachers who affirmed satisfaction with the teaching profession is lower than those who are not satisfied. Of the twenty participants, only eight somewhat agreed and one strongly agreed that they were satisfied with the profession. The two constitute 45% of the total teacher sample.

In Tables 4.3 and 4.4 below prominent factors that influence the demand of secondary school teachers as understood by secondary school teachers and ex-secondary school teachers respectively are presented.

Table 4.3: Secondary school teachers' opinions on factors that influence the demand for teachers

Factors		Secondary school teachers	
		Number of teachers	% of sample
1	Official age of retirement	20	100
2	Migration	18	90
3	Prevailing school Culture and climate	17	85
4	Student enrolment and students-teacher ratio	17	85
5	Disease and death	16	80
6	Lack of teachers for specific subjects	16	80
7	Job dissatisfaction	12	60

Table 4.4: Ex-secondary school teachers' opinions on factors that influence the demand for teachers

Factors		Ex-Secondary school teachers	
		Number of teachers	% of sample
1	Official age of retirement	1	50
2	Job dissatisfaction	1	50
3	Migration	1	50
4	Student enrolment and students-teachers ratio	1	50
5	Prevailing school cultures	1	50

Tables 4.3 and 4.4 show the six factors that were mentioned by teachers. These are described below.

4.3.1 Retirement

All the twenty teachers presently on the job and one of the ex-secondary school teachers indicated in the questionnaires that teachers leave the profession because of the official retirement age. It was indicated that a void is created at schools because of the retirement of some teachers. On stressing this point, one ex-secondary school teacher said:

...I was very old when I was still a teacher and at a certain age, I had to retire even though the school never wanted me to go. When I finally retired from teaching, the school had to look for another teacher to replace me...

As people grow older they reach a point where they cannot continue working, hence they are bound to leave. An increase in the number of teachers retiring will increase the demand for teachers, thus revealing retirement as an important factor in determining the demand and possibly shortage of teachers.

4.3.2 Migration

Migration was one of the factors cited that lead to the demand for teachers. In the study, 18 (90%) of the secondary school teachers accept that they would want to go abroad and work. Migration of teachers is therefore seen as a factor that influences the demand for teachers according to the respondents.

I left teaching because I migrated to London in search of money...this left the school in a situation of looking for another teacher to replace me. I think migration also influence the demand of teachers (Ex-secondary school teacher).

4.3.3 Prevailing school culture

The culture and climate of a school were mentioned by 17 (85%) of the respondents as factors that influence teachers to leave a particular school. For example, both secondary school and ex-teachers mentioned poor school **security, lack of discipline, violence and unsound school leadership/administration practices** in some of the schools as issues that create fear and instability among teachers, which in turn could influence the teachers to leave those schools for others considered safer. Lack of discipline among students in particular was referred to as highly influential in encouraging teachers to leave their schools. This ill-

discipline equally raises fear within the teachers, especially when respect is not accorded to them by the students. When teachers finally leave because of the lack of security or ill-discipline, this leads to teacher shortages and the demand for teachers in those schools.

The participants also indicated that unsound school leadership and administration practises are also important factors that influence the demand for teachers. When school principals collaborate with teachers, teachers see the need to be in those schools. School climate is most often determined by the school management. Some administrators create an unbearable atmosphere at schools through bullying and uncompromising tendencies which some teachers cannot endure, hence they resign and move elsewhere. One of the respondents explained

...there used to be a principal that always want to fight with his teachers and they end up not speaking to each other, even greetings could not be seen. The result of these fighting was that most of these teachers left that particular school for other schools...

4.3.4 Student enrolment

To find if student's enrolment and the students-teacher ratio is a variable to consider when dealing with the demand for teachers, it was significant to get both the number of students and the number of teachers in each of the sampled secondary schools (A, B, C, and D) from each of the respondents(secondary school teachers).

Table 4.5: Students -teacher ratios

Schools	Students no.	Teachers no.	Teacher/student ratio
School A	1900	50	38
School B	1560	39	40
School C	1600	40	40
School D	1860	50	37

Table 4.5 provides information on the number of students per teacher from the respective sampled schools. Whereas the Department of Education recommends a teacher learner ratio of 1:35 in secondary schools, teachers (those still in the profession) disclosed that the average

ratio in some of the schools is more than 1:35. This ratio they say is too high and has increased their workload, disciplinary problems and lack of proper attention to all the students. As a result of an increased work load some teachers become frustrated and this forces them to leave their respective schools for another, or to make demands for more teachers to be employed. In this light, one ex-teacher commented that:

...during my own period, I had witness four of my friends and colleagues abandon their schools to other schools because their schools were populated with few teachers thus, leaving them with much work.

4.3.5 Disease and death

The **health condition** of teachers is another vital factor that was mentioned by 16 (80%) of the respondents. One of the respondents explained that when teachers become sick for weeks or months or even die, their classes need a 'standby or a replacement teacher'. Another teacher explained that their school is experiencing the effects of illnesses such as HIV/AIDS, which brings about absenteeism and increases workload for the remaining teachers. At times some of the classes remain unattended while teachers are at home recuperating from illness.

4.3.6 Shortages of specific subject teachers

Teachers explained that the demand for and supply of teachers do vary when the teaching areas (subject) is taken into account. There might be a **relative increase in the demand for Mathematics** teachers than in the demand for English teachers as suggested by the present study. For example, out of 20 respondents, only 1 teaches Mathematics while 4 teach English, thus giving 5% and 20% of the respondents respectively. This finding implies that more mathematics teachers will be needed than English teachers. However, it could also imply that fewer Mathematics student-teachers graduate than is the case with English student-teachers.

4.3.7 Job dissatisfaction

In order to find out if the working conditions at schools have an influence on the demand for teachers, the respondents were asked to rate their working conditions at their respective secondary schools. The rating was done using the scale of 'excellent', 'very good', 'good', 'bad' and 'very bad'. The figure below presents their rating.

Figure 4.2: Rating of working conditions by teachers.

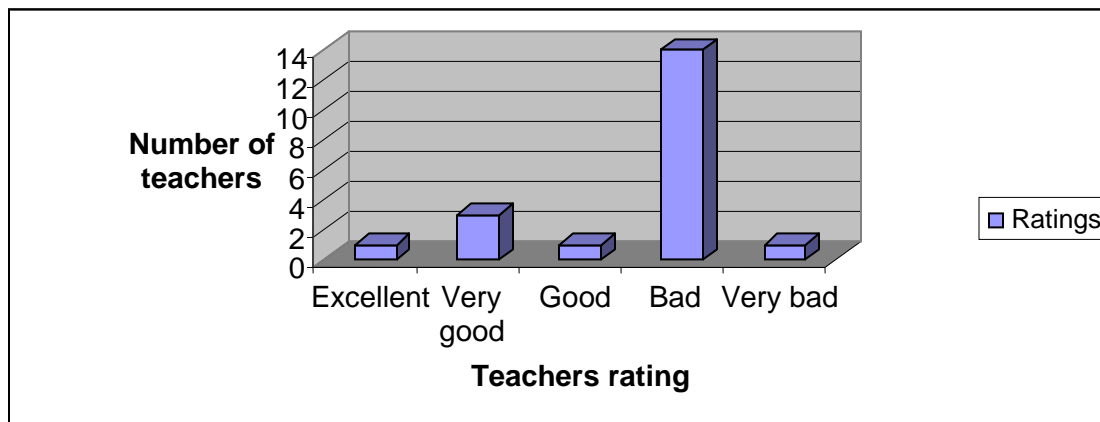


Figure 4.2 shows that, according to 14 (60%) of the respondents, **job dissatisfaction** is one of the main reasons most teachers leave teaching or a particular school. Job dissatisfaction stems from a lot of variables such as **students indiscipline, the absence of professional progress, heavy workload**, among others. In most cases, teachers leave teaching because they are not happy with their salary levels, especially when compared to other jobs. According to them, job dissatisfaction causes teachers to either migrate abroad in search of better currency, or to finally move to a different profession.

... I migrated because of the salary that I was receiving which was not good and I thought it was good for me to go elsewhere, where I will be paid nicely (Ex-secondary school teacher).

4.4 Heads of teacher-training faculties/schools responses on the factors that influence the supply of secondary school teachers

This section presents findings from the questionnaire that was administered to the heads of teacher-training institutions on the supply of secondary school teachers. From the questionnaires, a number of factors are perceived to be responsible for the supply of teachers. According to the respondents (heads/deans/directors), the prominent factors are:

- Destination of the new graduates;
- Learning area choice of student teachers;
- The enrolment rate of pre-service student teachers; and

- The graduating number.

This is illustrated in the table below.

Table 4.6: Heads of teacher training institutions/faculties opinion on factors that influence teachers supply

Factors		Heads of teacher training faculties	
		Number	% of sample
1	Destination of the new graduates	4	100
2	Learning area choice of student teachers	4	100
3	The enrolment rate of student-teachers	3	75
4	The graduating number	3	75

Following below is an elaboration on the factors listed in Table 4.6

4.4.1 Destination of the new graduates

In terms of what happens to the new graduates, the following question was asked: **Do the graduated student teachers go into teaching?** All of the respondents 4 (100%) revealed that not all of the graduating student teachers end up teaching. There is a relationship between the destination of the new graduates and the supply of teachers. If graduated student-teachers go into teaching, this will influence the supply of teachers because of their availability but if not, they will influence teacher supply only when they choose to teach.

4.4.2 Learning area choice of student teachers

Both the demand and supply of teachers in most cases is influenced by the types of subject area that student-teachers choose as their majors or teaching subjects. All 4 (100%) of the heads/deans/directors of teacher-training institutions indicated that Languages, Social sciences, Life orientation and Technology are the popular choices that the student-teachers embark on. The result is a relative increase in the demand of teachers in those subject areas. This implies

that even though there could be an increase in the number of students entering the teaching programs, there can be a relative decrease in the supply of teachers in some subject areas like Mathematics, Physics and Chemistry. The imbalance between popular and less popular subject areas implies that the choice of learning area by the student teachers is a factor that influences the supply of teachers as well as the demand for teachers.

4.4.3 The Enrolment rate of pre-service student teachers

In order to determine what influence the enrolment of pre-service teachers has on the supply of teachers, respondents were asked to rate the enrolment rate of their students during the last five years (2003 – 2008). The figure below presents respondents’ rating of pre-service student teachers’ enrolment during the five-year period before I asked them for this information.

Table 4.7: Heads/deans/directors of departments in teacher-education institutions’ responses to student enrolment

Response	Number of Heads
Increased	3
decreased	0
No change	1

According to 3 (75%) of the respondents, student-teachers enrolment rate is at an increase while 1 (25%) indicated there has been no change on the enrolment rate for the past five years at his institution between 2003 and 2008. Some heads/deans/directors of teacher-education schools/faculties indicated that there has been an increase in the student-teachers enrolment due to the availability of Bursaries, specifically the Fundza Lushaka bursary scheme that is encouraging students to enrol into the profession.⁸

⁸Fundza Lushaka is a government funded bursary giving to students to encourage them especially on subjects like science and mathematics and to encourage them to join the teaching profession (Government Communications, 2007)

4.4.4 The graduating number

Deans/directors of schools/faculties of education were asked the following question in order to establish what factors influence the supply of teachers: **How can you describe the graduating rate of student-teachers in your institution?** 3 (75%) of the respondents said the graduating rate of student-teachers is at an increase in their respective institutions. In their opinion there is a direct relationship between the numbers of student-teachers that finally graduate and the supply of teachers. As a result, a decrease in the number of graduates for example decreases the supply of teachers because fewer teachers will be available.

4.5 Principals' responses on how schools deal with teacher shortages

This section presents responses from secondary school principals. Having verified from school teachers that different schools do experience teacher shortages for varied reasons, interviews with principals were conducted with the purpose of getting from them the various ways schools deal with teachers' shortages when experienced. During the interviews with secondary school principals, I was interested in knowing the following:

- Whether there is an imbalance in the demand and supply of teachers;
- Secondly, how do schools deal with the problem of shortage of teacher(s); and
- Thirdly, how do schools prevent teachers from leaving their respective schools?

The three questions generated several diverse responses. In the section that follows some of the responses are described.

4.5.1 Imbalance between supply and demand

The principals revealed that teachers are leaving their respective schools for whatever reasons and this varies from school to school. However, in some schools, the number of teachers leaving is very small as one of the principals reported:

... Yes, they do leave or resign but we do have a small turn over at the school...

Some schools experience shortages of teachers in key subjects such as computers (IT), mathematics and physics while in some, shortages are experienced because teachers are out of their classes for weeks and months for one reason or the other, for example, illness. In cases like the one mentioned above, there is bound to be an imbalance, hence creating a continuous increase in demand for teachers. Findings relating to the various mechanisms schools used in combating teacher shortages are presented below.

4.5.2 How schools deal with teacher shortages

According to the principals, there are many ways in which schools deal with teacher shortages. Examples cited are: (i) **retaining veteran teachers**, (ii) **advertising vacancies through all kinds of media**, (iii) **filing the curriculum vitae of people who have expressed interest and inviting them when vacancies arise**, (iv) **merging classes in order to accommodate the situation**, (v) **creating scholarships for students who might be interested in teaching as a career**, (vi) **identifying potential capable teachers among student-teachers practicing at their schools**, (vii) **improving working conditions of their staff**, (viii) **creating support programs**, (ix) **creating opportunities for involvement and advancement**, (x) **providing administrative support on discipline**, (xi) **providing ample resources and materials for the classrooms**, and (xii) **in some cases they leave classes unattended as filling posts is beyond their mandate**.

4.5.2.1 Retaining veteran teachers

Due to their experience and the need for teachers, schools sometimes do not let go of those teachers that have reached retirement age. One of the ways the school encourage veteran teachers to stay is by giving them incentives, as one of the principals reported:

... of the times we as a school do not just allow most of our experienced teachers that have reached retirement age. In some instances, we give them encouraging packages just to let them stay in our school. All of this is because we need experience teachers and in some subjects like mathematics, is very difficult to find a replacement...

4.5.2.2 Advertising vacancies through all kinds of media

Another way in which schools deal with the problem of shortage of teachers is by advertising as widely as possible even if it is a departmental post. In most cases, the local newspapers and national newspaper carry the advertisement and by so doing, interested persons do apply from all over.

4.5.2.3 Using curriculum vitae submitted for previous posts to recruit

One of the principals explained that his school files curriculum vitae of promising candidates who were unsuccessful in securing jobs the school had advertised in the past. When a need for a new teacher arises, those files are opened to identify a suitable candidate for the post. Thereafter the candidates are invited to apply for the new post.

4.5.2.4 Merging classes in order to accommodate the situation

In other cases when a teacher happens to leave for whatever reason, the school merges the classes in order to accommodate the situation. This usually results in big classes which most teachers do not like, as one of the principals reported:

... when some of these teachers leave we are often left with no choice than to bring the classes together while waiting to find replacement teacher(s). These circumstances likely result to classes being over crowded with poor discipline ...

4.5.2.5 Creating scholarships for students who might be interested in teaching as a career

Some schools use preventative measures in dealing with possible teacher shortages. One principal explained that his school has set up college scholarships for students attending his school. The students' tuition is paid for if they go to University to study teaching. The principal reported;

The school sometimes embarks on a mechanism of guarding against future teachers shortages especially in certain key subjects like mathematics and computer studies by encouraging students to go for the teaching profession and by sponsoring them. This however is when we see that this or that student is good especially in science subjects where we most often face a shortage.

4.5.2.6 Spotting potential teachers among student-teachers during teaching-practicum

One of the principals explained that one of the mechanisms the school uses is identifying student-teachers with potential during their teaching practicum. Once these students have graduated and there is a vacancy at the school, they are contacted for the job.

4.5.2.7 Improving working conditions

Improving the working condition at school for teachers to feel happy is one of the ways schools prevent teachers from moving away from those schools. Schools **reduce the work load** of their teachers by employing more teachers and maintaining the standard ratio of students to teachers. **Necessary equipment and resources** needed in classes like text books are provided and the school **environment is kept clean**. All the foregoing strategies encourage teachers to stay in those schools.

4.5.2.8 Support programs

One principal explained that his school encourages all the teachers to attend conferences. These conferences are aimed at educating teachers on the need to improve their pedagogic skills, classroom management and teaching methods. This strategy, as revealed by the principal, helps teachers to love their job even more and to stay in that particular school.

4.5.2.9 Opportunities for involvement and advancement

Schools sometimes involve teachers in programmes that help to develop them. An example of such programmes is the Advanced Certificate in Education which is offered by universities in the Western Cape, to help advance teachers' careers. Most often, these programmes are being sponsored by the Western Cape Education Department (WCED). Principals write letters of motivation in support of their teachers to receive sponsorships. Teachers are encouraged to stay in the profession as their levels change with the completion of such a programme (Advanced Certificate in Education).

4.5.2.10 Providing administrative support

In many cases, principals and the management staff provide administrative support to teachers, especially in the area of discipline, record-keeping and getting parents more involved with their children's education. Providing administrative support makes teachers feel valued and therefore encourages them to stay in such schools. One principal reported:

In my school, we help teachers a lot especially in the area of discipline. This makes our teachers feel secure and happier to stay in our school because the element of fear is eliminated.

4.5.2.11 Providing ample resources and materials for the classrooms

In most cases, as revealed by two principals, schools provide teachers with a lot of classroom materials such as text books to enable the teachers to teach with ease. Since teachers do not have to spend their own money on teaching material they will most likely stay in those particular schools. Some respondents say when their school pays attention to these aspects, teachers will want to be part of that school, as reported by one of the principals:

... try in our school to create a supportive environment such that teachers can love to stay on and sometimes we even have internal workshops where teachers are being helped...

4.5.2.12 Doing nothing

In some instances schools leave classes without teachers unattended. This happens especially in cases where a teacher is expected to be out for a short duration or left without any formal notice and the school cannot find a substitute immediately. This kind of situation is often beyond the control of the school, as one principal reported:

When we have a shortage of a teacher in our school and we cannot have another teacher immediately for replacement then we just leave the situation like that for the time being...

4.6 Emerging themes

Since the main aim of this study is to explore mechanisms that schools employ in dealing with teacher shortages, the key findings were further reduced by answering the question "what do

schools do in dealing with teacher shortages?” This question was developed in line with the principle of phenomenological reduction discussed in Chapter Three.

The foregoing sections have presented the findings on factors that influence the demand for and supply of secondary school educators, the factors that influence the supply of teachers from the perspective of deans/directors of schools/faculties of education, and the mechanisms that schools employ to deal with teacher shortages from the point of view of secondary school principals.

Through the application of phenomenological reduction it became clear that the strategies used by schools/principals were either proactive or reactive. The former (proactive) are those preventive measures that schools have in place for preventing possible teacher shortages in the future. The latter (reactive strategies) refer to those measures that schools implement once a problem of teacher shortages has occurred. As far as factors that influence demand and supply of teachers are concerned, a closer reading of the responses from participants reveals that the factors are due to personal, natural and managerial reasons.

4.7 Chapter conclusion

This chapter has made clear that in terms of factors that influence demand a multitude of such factors exist. The factors are not unique to one school but are experienced by the broad Western Cape schooling community. In addition, most of the factors are of a systemic nature and do not stem from the schools. These factors include: official age of retirement, job dissatisfaction, migration, prevailing school climate, student enrolment, disease and death, the lack of teachers for specific subjects and the enrolment rate of pre-service student teachers, graduating number, learning area choice of student teachers, and the destination of graduating students.

The findings have revealed that many ways are used by schools to deal with and prevent teacher shortages. The various mechanisms include: (i) retaining veteran teachers, (ii) advertising vacancies through all kinds of media, (iii) filing the curriculum vitae of people who

have expressed interest and inviting them when vacancies arise, (iv) merging classes in order to accommodate the situation, (v) creating scholarships for students who might be interested in teaching as a career, (vi) identifying potential capable teachers among student-teachers practicing at their schools, (vii) improving working conditions of their staff, (viii) creating support programs, (ix) creating opportunities for involvement and advancement, (x) providing administrative support on discipline, (xi) providing ample resources and materials for the classrooms, and (xii) in some cases they leave classes unattended as filling posts is beyond their mandate.

The next chapter will discuss the results in light of the literature reviewed in Chapter Two.

Chapter Five

Discussion, Conclusion and Recommendations

5.1 Introduction

In this chapter the results presented in Chapter Four are discussed. The discussion aims to examine the findings in light of the literature reviewed in Chapter Two. The chapter is organised as follows:

- Section 5.2 discusses the factors that influence the demand for secondary school teachers;
- Section 5.3 discusses the factors that influence the supply of secondary school teachers;
- Section 5.4 examines the various mechanisms schools employ in dealing with teacher shortages or when supply does not satisfy demand; and
- Section 5.5 concludes the chapter.

5.2 Discussion of factors that influence the demand for secondary school teachers

From the findings, a multitude of factors necessitate the demand for teachers. These factors are: retirement, job dissatisfaction, migration, prevailing school climate, student enrolment, disease and death and the lack of teachers for specific subjects.

5.2.1 Retirement

Findings indicate that retirement is one of the factors that influence the demand for teachers. Demand for teachers in the Western Cape is related to the age of teachers. The proportion of younger teachers (those aged under 30) declined from just under a quarter of all teachers in 1997 to 8% in 2002 and to 6% in 2005. The proportion of those aged 40 and older increased from 29% in 1997 to 46% in 2002 and 51% in 2005 (Arends, 2007). In this direction Robert (2009:36) and Boe, Cook & Sunderland's (2008:8) research on teacher turnover (attrition), confirms that retirement needs to be considered as one of the highest causes of teacher shortages. An increase in the number of teachers going on retirement will lead to an increase in the demand for teachers as more teachers will be required to fill the vacancies. The present

study adds to an already strong body of evidence (Woodson, 2008; Grissmer & Kirby, 1987) that clearly identifies retirement as a factor that influences the demand for teachers.

5.2.2 Job dissatisfaction

The impact of job dissatisfaction on teacher demand has been pointed out and reaffirmed by Darling-Hammond (2010), Haggstrom, Darling-Hammond, & Grissmer (1998). Ingersoll (1997), for example, explains that what governs a practicing teacher's decision to stay, move, or leave teaching is the relative attractiveness of her current position compared to all other available positions. When teaching is relatively seen as a good profession, more high school students for example will be attracted to teaching, and this will increase the supply of teachers and consequently reduce the demand for teachers.

The study in a similar trend revealed that there is a strong relationship between job dissatisfaction and the demand for teachers. Job dissatisfaction emerges mostly from many factors such as: low salaries, increase in student enrolment that leads to disciplinary problems, workload and the working conditions. Job dissatisfaction as revealed in the study increases the demand for teachers on the basis that it increases the desire for teachers to leave their schools or the profession.

To emphasise this factor on the demand for teachers William (2002:365) states:

...it used to be that teaching wasn't such a bad field to consider as a career. The pay wasn't great, but it was adequate, and there were other attractions. You were appreciated in the community because you were helping its children and, as the years went by, that appreciation could be expected to grow. Today, this is not the case. Why would a bright student (and aren't the ones we need?) go into a low paying, low-respected job where the primary responsibility is to expose a small group of people, a sizeable proportion of whom could care less about anything of an intellectual nature, in a place where they do not wish to be, to something that all but a few will find totally irrelevant.

5.2.3 Migration

This study reveals that secondary school teachers in the Western Cape migrate from one school to the other, one region to the other, and one country to the other mostly because of many

reasons including job dissatisfaction (low salaries and school climate). Migration enhanced by globalisation, allows teachers with scarce skills from South Africa to fill gaps in the labour market in developed countries such as Britain (Maree, 2009:208). Trans-national migration is a determinant factor of demand for teachers in South Africa, seen simply by presenting the demographic profile of existing teachers and their reasons for leaving South Africa (Manik, 2009). An increase in the rate of teachers migrating from a school increases the number of teachers needed to fill the vacancies created. This study adds to the existing view that migration influences the demand for teachers (DoE, 2007). Boe & Sunderland (2008) highlighted more on migration as a factor that influences the demand for teachers, especially when teachers from ‘poor’ nations move to teach in the ‘rich’ nations.

5.2.4 School climate

The study found school climate as being a factor influencing the demand for teachers. School climate is defined as a group’s shared beliefs, customs and behaviour (Deal & Peterson, 2009). It is the social interactions that occur within the school and give the school its look and feel as “friendly” and inclusive. It influences informal conversation and fosters school effectiveness and productivity (Deal & Peterson, 2009). It is therefore a complex interaction of many factors which has a major effect on teaching and learning.

Teachers may leave a particular school on the basis of lack of security, discipline, violence and poor school leadership/administration. Lack of security which is indicated by teachers through student violence for example, will encourage teachers to leave to schools or areas where there is good security. This finding therefore does not divert from the opinion expressed by Alton (2007), Liu (2007), and Ingersoll (1997) that organizational factors within the school such as lack of support from administrators, dirty environment and poor discipline could influence a teacher’s decision to stay or leave a school.

5.2.5 Student enrolment and the student-teacher ratio

Participants in this study have reported that an increase in the student enrolment and the student-teacher ratio encourages teachers to leave their schools to other schools or even to leave the profession because of an increase in workload that is caused by an increase in the

number of students. An increase in workload could lead to stress and burn-out among teachers and even lack of proper attention on individual students. As reported by participants in this study and elsewhere, teachers will most likely leave because of large class sizes, and the rate at which teachers leave will equally determine the demand of teachers. Kim, Kim & Han (2009:12) HSRC (2005), Grissmer (2002), Ingersoll (2001) and Grissmer & Kirby (1987) have all found high student enrolment and large class size to be a key factor in pushing teachers out of schools. This finding is therefore in line and consistent with the above researchers. One can logically conclude that both students' enrolment and the students-teacher ratios are factors that do influence the demand for teachers. The expectation is that when enrolments are high there should be more teachers employed. As noted above, such is not always the case in public secondary schools. A higher workload becomes a negative push factor as it could lead to an unhealthy school climate that in turn influences teachers to resign from their jobs.

5.2.6 Disease and death

This study has revealed that health related issues could be a contributing factor to teacher attrition and teacher shortages. Teachers stay away from school because they are sick. HIV/AIDS in particular was cited as one of the illnesses that contribute to a high rate of leave applications and death among teachers. Mariti (2010:12) and Nkwanga (2009:44) reaffirm in their respective studies that HIV/AIDS affects teachers at all levels, impedes the educational process, negatively affects the quality of education and heightens the risk of illiteracy. The Cape Higher Education Consortium (2009) study also confirms the impact of disease and death on the demand for teachers. When many teachers stay away or resign, this will increase the demand as more teachers will be needed to fill the temporary or permanent vacancies. It is logical from the discussion to say that diseases and death affect teacher shortages and the demand for teachers. This finding is therefore consistent with Baxen's (2007) and Bennell's (2003) opinion that health related issues such as HIV/AIDS affect the demand for teachers because sickness brings about absenteeism and can even bring about the death of a teacher.

5.3 Discussion of the factors that influence the supply of secondary school teachers.

The study has shown that many factors influence the supply of secondary school teachers among which are: the enrolment rate of pre-service student teachers, learning area choice of student teachers, destination of the new graduates and the graduating number. These factors are discussed below.

5.3.1 The enrolment rate of pre-service student teachers

The study has found the rate of pre-service student teacher enrollees as being one of the factors that influence the supply of teachers. This could be influenced through creating awareness to students and parents of teaching as a good career to follow. In alignment to the study, Hurwitz & Hurwitz (2005:328), Superintendent of Public Instruction Washington (2004) and Steiner & Schiller (2003) concur that pre-service student-teachers enrolment is in fact seen as a major factor that determines the supply of teachers.

Student enrolment into education, according to most literature, depends on the manner in which the general public views teaching or their perception towards teachers. Stokes (2007) stated that the attitude of the general public towards teachers and teaching as a whole greatly influences the number of students enrolling into teacher-training institutions or teaching as a profession. To him, this could discourage some of the enrolled students even when they become teachers and lead to lower satisfaction levels and perhaps contribute to increased resignations. This study therefore is in acceptance with Stokes (2007) that in order to increase teachers supply, public perception towards teaching is vital in determining the enrolment rate of pre-service student teachers which intend influence the supply of teachers.

5.3.2 Learning area choice of student teachers

The study found that subjects such as Life Orientation, Languages, Technology, and Social Sciences were the popular choice of student-teachers. The implication is that most students do not go for other subjects such as Physics, Chemistry and Mathematics. The outcome is that there will be a future shortage of teachers in these learning areas if there are a few or no student teachers (Physics, Chemistry and Mathematics) and this will pose a high demand for teachers in

such learning areas. This study is therefore consistent with the view of Brown-Peters (2001) that different learning areas present different demand for teachers.

The study is therefore consistent with Kriek & Grayson (2009:191) and Pandor (2006) who commented that the state of mathematics and science education in South Africa is a reason for concern as the number of Grade 12 learners who pass Physical Science and Mathematics on Higher Grade, a requirement to enter into science-based studies at university, remains very low. This low number of student teachers in Mathematics reflects the future supply level or needs for Mathematics teachers. From the above discussion it is logical that subject choice of student teachers is an important factor that influences the supply of teachers.

5.3.3 Destination of the new graduates

Another important finding is that not all student teachers that graduate go into teaching immediately or, sometimes, ever. A lot of issues come into play. Firstly, if these graduates enter the teaching market then that impacts the supply of teachers positively by reducing the demand for teachers, all things being equal. Secondly, the issue of migration, which has been indicated also by Dibbon & Sheppard (2001), whereby some teachers migrate to other countries, reduces the supply of teachers and increases the demand for teachers. Some of the graduating students move into the industrial sector which is in high demand for Mathematics, Physics and Chemistry students. This point has been supported by Brown-Peters (2001) as well.

In line with the above discussion, Kings (2003:10) and Dolton (2003) conclude that the place where new graduates want to be matters, as some may go for further studies, some graduates will move to the industrial sector, others may migrate to other countries in search of better life, while others may join other professions especially if the pay is relatively better. From the discussion it is clear to see that the destination of the graduating student teachers is one of the factors that greatly influence the supply of teacher.

5.3.4 Graduating number

The study has established that teacher supply is greatly influenced by the number of student-teachers that graduate. An increase in the number of the graduates will influence the supply of teachers in that more teachers will be available for teaching and via versa. Leeuwen (2010), DoE (2006:10) and Geyser & Wolhuter's (2001) studies also confirm that the number of student-teachers that enter and graduate influences the supply of teachers.

Buttressing the above discussion Bot's (2005:8) study on South Africa confirms that if the number of student teachers that enter into the teaching profession drops, it will cause a detrimental effect on the age profile of teachers in South African schools. The number of students taking teaching as a profession depicts to an extent the number of students that will graduate. This intends determines the supply of teachers which the study has confirm.

5.4 Mechanisms and strategies employed by schools in dealing with teacher shortages

According to Darling-Hammond (2010), Liu (2007) and Lisa (2001) schools have to employ strategies and policies in order to remove the obstacle of teacher shortages that hit the 'heart' of schools. In this same light, many strategies or mechanisms have emerged from the study which schools utilize in dealing with teacher shortages, these methods include: (i) retaining veteran teachers, (ii) advertising vacancies through all kinds of media, (iii) filing the curriculum vitae of people who have expressed interest in the school and inviting them when vacancies arise, (iv) merging classes in order to accommodate teacher shortages, (v) creating scholarships for students who might be interested in teaching as a career, (vi) identifying potential capable teachers among students teachers practising at their schools,(vii) improving the school climate and (viii) in some cases leaving classes unattended as filling posts is not seen as the school's mandate.

5.4.1 Retaining veteran teachers

The retaining of veteran teachers has been revealed in this study as one of the strategies schools employ in dealing with teacher shortages. Teachers that are otherwise supposed to be on retirement are once again deployed to teach, thus solving the problem of teacher shortages and reducing the demand for teachers. One of the ways schools keep veteran teachers is by

giving them encouraging packages. This method continuously keeps teachers in schools that is why, Dillon (2009) emphasises the need to keep veteran teachers as a means of solving teacher shortages.

This study therefore supports the view of Woodson (2008) that schools and departments of education are continuously working on a mix of retention incentives – including competitive pay, professional development, mentoring and retirement deferrals – to keep veteran teachers around just a bit longer. Such incentives include allowing teachers to retire but still keep their jobs for up to five years and still receive a full pension. Benefits like these reduce the number of teachers leaving the profession and thus influencing the supply of teachers, as this reduces the shortage of teachers' problem. From the on-going discussion based on the finding, one can say that using veteran teachers is one of the mechanisms schools employ in dealing with teacher shortages.

5.4.2 Advertising vacancies through all kinds of media

The findings also reveal that one of the mechanisms schools use in dealing with teacher shortages is by advertising vacancies through all kinds of media such as newspapers, bulletins, internet, among others. This creates awareness of an existing vacancy and a call for interested teachers to apply. When interested teachers apply and are selected, the available vacancy is filled and the problem of teacher shortage is solved. Based on the finding therefore, one can reasonably conclude that the advertisement of vacancies through all kinds of media is one of the mechanisms schools employ in dealing with teacher shortages. Lipsett (2007) commended that teacher shortages exist because of a lack of information and awareness. Therefore awareness is very significant in dealing with teacher shortages.

5.4.3 Filing the curriculum vitae of people who have expressed interest in the school and inviting them when vacancies arise

Another mechanism established in the study is through the filing of curriculum vitae of people who have shown interest in the school and inviting them when there are vacancies. This strategy guards against any future need for teachers. When there is a vacancy or any teacher shortage, the school immediately invites those that had shown interest and the post is filled and

the shortage problem is dealt with. From this one can logically say that the filing of curriculum vitae of people who have expressed interest in the school and inviting them when vacancies arise is a mechanism that schools use in dealing with teacher shortages. While I have not found any literature that supports this particular strategy, Darling-Hammond (2010) and Liu (2007) are of the opinion that schools should implement policies to do away with teacher shortages.

5.4.4 Merging classes in order to accommodate teacher shortages

Merging of classes is one of the mechanisms the study has revealed that schools use in dealing with teacher shortages. In circumstances where there is no teacher to fill a vacancy, schools rather merge the classes to solve the problem of shortage of teachers. This is always in a short run as many problems are associated with this (increase in workload and discipline problem which emerge from overpopulated classes). Patty (2008: 2) has reported on a similar strategy by indicating that classes are combined in extreme cases whereby teachers might be expected to teach outside their area of expertise in order to cover up for teacher shortages.

5.4.5 Creating scholarships for students who might be interested in teaching as a Career

The establishment of scholarships for students who might be interested in teaching as a career has been revealed in the study as a mechanism in dealing with teacher shortages by schools. When aspiring students find that they can have scholarship should they take on teaching as a career, then this will motivate most post-matric students to go into teaching. When the numbers of those entering into the profession increases, the supply of teachers will likely increase and consequently solve teacher shortages. According to the Department of Education (2002), decisive measures are required to increase the number of young people in initial teacher education, improving the success rate, encouraging more newly qualified teachers and making them available for employment as teachers or educators after graduation. One example is the recently established Fundza Lushaka Bursary scheme for students who wish to obtain a teaching qualification (DOE, 2007). From the finding therefore, one can say that creating scholarships for students who might be interested in teaching as a career is one of the mechanisms schools can successfully use in dealing with teacher shortages.

5.4.6 Identifying potential capable teachers among student-teachers practicing at their schools

The study established that schools monitor and identify those ‘would be’ teachers in their schools when they (student teachers) are practicing. In most instances, student teachers practising in the teaching of mathematics are employed as soon as they finish with their programmes. If schools identify potential capable teachers among student teachers, then this will impact positively in that at any moment of a shortage, there is a teacher to fill the vacancy. This strategy keeps the school on a good footing and direction. From the finding therefore one can possibly say that the identification of potential capable teachers among student-teachers practicing at schools is one of the mechanisms schools use in dealing with teacher shortages. Liu (2007) emphasises the need for schools to bring up policies in order to deal with the obstacle of teacher shortages. Andrews, Evans, and Miller (2002) for example commented that teacher preparation programs (like teaching practice) have become a major focus point for obtaining teachers for the field of special education and many school districts and universities work in collaboration to fill positions that need qualified special education teachers.

5.4.7 Improving the school climate

The findings have shown that some schools work hard on improving and maintaining a positive school climate as one of the mechanisms they employ in dealing with teacher shortages. In other words, management in such schools do not only act when teachers have left or threaten to leave schools but act proactively to instil healthy practices that encourage teachers to stay at school. For example, improving the working conditions at school for teachers to feel happy is one of the ways schools prevent teachers from moving away from those schools. When working conditions are improved, teachers feel secure, safe and happy, thus increasing their job satisfaction. School climate can be improved when there is a supportive working environment, when teachers have the ability to influence educational decisions in the school and classroom, and even when there are opportunities for professional advancements and recognition.

Schools also focus on leadership in order to maintain a good relationship with their teachers. When there is a good relationship with teachers, they feel safe and secure, hence increasing the

feelings to stay in those schools rather than leaving. This addresses the problem of teachers leaving their schools to other schools. This study is therefore consistent with Bush's (2009) call for a sound leadership to improve school climate and Darling-Hammond's (2010) idea of improving the working conditions of teachers to prevent them from leaving their schools. From the findings, one may reasonably say that improving school climate in which teachers feel a sense of belonging is one of the mechanisms schools employ in dealing and preventing teacher shortages.

5.4.8 Leaving classes unattended as filling posts is not seen as the school's mandate

The study reveals that in some situations classes are left unattended. This normally takes place when there is no teacher available to fill the vacancy that is created when a teacher leaves because of one reason or the other. This study supports the view of Saikou (2007) that students will be left unattended when the situation becomes serious, especially when more teachers leave, as in the case of a high school in the Gambia where students were left unattended because the school's qualified teachers left due to a lack of incentives. A similar situation has been pointed out by Lauren (2010) when he says students are bound to roam around because they have no schedule and teacher. One can realistically say that doing nothing is a negative mechanism schools use in dealing with teacher shortages.

5.5 Conclusion

5.5.1 Concluding remarks

The study aimed to explore (i) the factors that influence both the demand and supply of secondary school teachers and (ii) finding out how schools deal with teacher shortages. In this concluding section, I make clear ways in which these two questions have been answered.

The preceding section has shown that teacher demand and supply in the Western Cape is influenced by similar factors that occur elsewhere in the world. Of particular interest in this study was to explore and describe ways in which schools deal with shortages that might be influenced by these factors. The principals who participated in this study mentioned varied ways in which they deal with teacher shortages, some of which are preventative or curative of

the problem of teacher shortages. What is worth-noting is that since public schools in Western Cape are owned and funded by the provincial government, principals are limited in what they can do as most of the strategies require a high level of monetary commitment.

5.5.2 Limitations of the study

This study focused on how schools deal with teacher shortages given factors that influence demand and supply of teachers. Given the use of a small sample of teachers and principals to represent the whole school may be considered a limitation to the study. The findings may not have exhausted what the entire population of secondary schools in the Western Cape might have disclosed. However, the information sourced out from the sample is still informative as it has highlighted the systemic constraints within which schools and their management operate. The absence of a view from the Western Cape Education Department (WCED) may as well be considered a limitation as they own public schools.

5.5.3 Recommendations

A strong vibrant marketing campaign to raise the visibility and attraction of teaching as a career for the young people across the province and even beyond is necessary. At the same time, improving and increasing teachers' salaries compared to other professions will boost the image of the teaching profession and attract more young people into it.

While principals are limited in providing financial benefits to retail staff, improving school climate should be at the centre of their work in schools. This will lead to job satisfaction by teachers and consequently reduce the rate of teachers leaving their schools to other schools or the profession entirely.

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Appendices

Appendix A: Application for permission to conduct research

To: The Western Cape Education Department

From: Ayuk Emmanuel E
Cape Peninsula University of Technology
P.O.Box 652
Cape Town 800

Dear Sir/Madam,

Request for permission to conduct research in Secondary Schools

The objective of this letter is to request your permission to conduct research in secondary schools in the Western Cape. Four schools will be randomly selected.

I am a Master of Education student at Cape Peninsula University of Technology and the research is in fulfillment of the M.Ed. degree. The research explores **the demand and supply of secondary school teachers in the Western Cape**. The respondents will be teachers, who will be asked to respond to a questionnaire, and principals, who will participate in an interview.

I do not perceive any risks from the participants' involvement in this study. In any case, individual responses will be kept confidential, and all data will be stored in a secured location only accessible to the researcher.

Thank you very much beforehand for your assistance.

Yours sincerely,
Ayuk Emmanuel (M.Ed. student)

Appendix B: Permission letter to conduct research



Dear Mr E. Ayuk

RESEARCH PROPOSAL: THE DEMAND AND SUPPLY OF SECONDARY SCHOOL EDUCATORS IN THE WESTERN CAPE.

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **1st September 2008 to 26th September 2008**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr R. Cornelissen at the contact numbers above quoting the reference number.
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

**The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

We wish you success in your research.

Kind regards.

Signed: Ronald S. Cornelissen
for: **HEAD: EDUCATION**
DATE: 29th August 2008

Appendix C: Letter requesting consent from principals

From: Ayuk Emmanuel E
Cape Peninsula University of Technology
P.O.Box 652
Cape Town 800

To: The Principal
.....Secondary School

Dear Sir/Madam,

Request for consent of teachers to participate in research

I write to request your consent for teachers of your institution to participate in my research through the filling of questionnaires.

I am a Master of Education student at Cape Peninsula University of Technology and the research is in fulfillment of the M.Ed. degree. The research explores the **demand and supply of secondary school teachers in the Western Cape**. Five teachers will be selected to participate by each filling a questionnaire. Confidentiality will be maintained. However, participation will be voluntary.

Thank you in advance for your assistance.

Yours sincerely,
Ayuk Emmanuel (M.Ed. student)

Appendix D: - Letter requesting consent from ex-secondary school teachers.

Ayuk Emmanuel E
Cape Peninsula University of Technology
P.O.Box 652
Cape Town 800
4th of September 2008

Dear Sir,

Request for your consent to participate in research

I am a student at the Cape Peninsula University of Technology and am conducting research for my M.Ed. thesis, which investigates the demand and supply of secondary school teachers in the Western Cape.

The objective of me writing to you is to request your participation in an interview focusing on the reasons behind teachers leaving the profession.

Your responses will be confidential and you will not be identified with your responses. Your participation will be highly appreciated.

Yours sincerely,
Ayuk Emmanuel Enow
(Master of Education student)

Appendix E: - Questionnaire for teachers

From: Ayuk Emmanuel E
Cape Peninsula University of Technology
P.O.Box 652
Cape Town 800

To: Mr/Madam/Miss
.....Secondary School

Dear sir/madam:

I am a student at the Cape Peninsula University of Technology and I am conducting research for my M.Ed. thesis, which focuses on the demand and supply of secondary school teachers in the Western Cape.

The primary objective of the study is to find out the factors that influence the demand and supply of secondary school teachers and the mechanisms that schools employ when supply does not satisfy demand.

Please assist by filling-in this questionnaire to the best of your knowledge. Your responses will be confidential and no school or individual will be identified with his or her responses, or by name. I very much appreciate your completing and returning the questionnaire in the enclosed envelope.

Yours sincerely,
Ayuk Emmanuel Enow
(Master student)

1(i) What learning area(s) are you teaching?

.....

1(ii) I am satisfied in the teaching profession. (Please tick one)

- 1. strongly disagree
- 2. somewhat disagree
- 3. undecided
- 4. somewhat agree
- 5. strongly agree

1(iii) Please give reasons for your answer in 1(ii)

.....
.....

2(i) How many teachers are at your school?

.....

2(ii) How many learners are at your school?

.....

2(iii) What would be your reaction should the number of learners in your class increase?

.....
.....

2(iv) Please give reasons for your reaction in 2(iii) above

.....
.....

3(i) How is the working condition at your school? (Tick one).

Excellent Very Good Good Bad Very Bad

3(ii) Please give reasons for your answer in 3(i)

.....
.....
.....
.....

3(iii) What is your opinion about the quality of discipline at your school?

.....
.....
.....

job? Tick one

Yes

No

6(i) Should there be any educational change or reform of policies such as salary increment, decrease or increase in the number of learners per teacher, would this influence you? Tick one

Yes

No

6(ii) Please give reasons(s) for your answer in 6(i)

.....
.....
.....

7(i) Have you ever been sick to an extent that you had to seek leave?

.....

7(ii) If yes in 7(i), for how long were you out of work?

.....

7(iii) Was a replacement arranged in your absence? Tick one

Yes

No

7(iv) In your experience has it become common for educators to be on sick leave?

Yes

No

7 (v) Do you think that educators who experience health-related problems contribute to educator shortages in schools? Tick one

Yes

No

7(vi) Please give reasons for your answer in 7(v)

.....
.....
.....

8 (i) In your opinion, do educators go on retirement before, during or after their official retirement age? Tick one

Before

During

8 (ii) If your answer to 8 (i) above is before or after, please give reasons for such an answer.

.....
.....
.....
.....

8 (iii) When teachers retire whether before, during or after their retirement age, do they create a shortage in the teaching force? Tick one

Yes

No

8 (iv) Please explain your answer in 8(iii)

.....
.....
.....

8(v) Can you give some of the reasons that might cause shortages of teachers?

.....
.....
.....
.....

9. Should your school experience shortages of teachers, what are some of the measures taken to solve the problem?

.....
.....
.....
.....

Thank you,

Appendix F: Semi-structured interview questionnaire for formal secondary school teachers

1. Where were you teaching/working and when?

2(i) Which subject area(s) were you teaching?

.....

2(ii) If you were to give some reasons that prompted you to leave the education, what would some of those reasons be?

3. Do you think your leaving teaching/education created a shortage at the school where you were? Tick one

Yes

No

4(ii) Why do you think so in 4(i)?

.....
.....

4 (iii) During your time as a teacher, which learning area(s) suffered constant teacher shortages?

5. How did your school deal with the problem of teacher shortages?

6. What do you think will encourage teachers to stay in the teaching/education?

Thank you

Appendix G: Semi-structured interview questionnaire for secondary school principals

1 (i) Does your school sometimes experience shortage of teachers as a result of some of the teachers leaving their jobs?

1(ii) If they do leave, what do you think are some of the reasons that do prompt them to leave?

2. What are some of the ways employed by your school to remedy the shortages created when teachers do leave?

3. What precautionary measure(s) is your school using to stop teachers from leaving?

Thank you

Appendix H: Permission letters to the Deans/Directors of school of Education

2 Anne Street
Mandalay
7785

27 February 2009

The Dean
Faculty of Education
University of Stellenbosch.

Dear sir/madam:

RE: Request for your participation in the study- ‘The demand and supply of secondary school teachers in the Western Cape’.

I am an M Ed student at the Cape Peninsula University of Technology (CPUT) with Dr. Cina Mosito as my supervisor. My research topic is; ‘The demand and supply of secondary school teachers in the Western Cape’.

The primary objective of the study is to find out the factors that influence demand and supply of secondary school teachers and the mechanisms that schools employ when supply does not satisfy demand. The sample consists of principals of selected secondary schools in the Western Cape, teachers and heads of schools or faculties of education in the four Western Cape universities.

The purpose of this letter is to request your participation in the study as a Dean of the School of Education at the University of Stellenbosch. Your response will be confidential; as both your identity and your department will not be associated with the responses.

Looking forward to your reply.

Sincerely,

Ayuk Emmanuel Enow
(Researcher).

**2 Anne Street
Mandalay
7785**

27 February 2009

**The Dean
Faculty of Education
Cape Peninsula University of Technology.**

Dear sir/madam:

RE: Request for your participation in a study on the demand and supply of secondary school teachers in the Western Cape.

I am a master's student at the Cape Peninsula University of Technology with Dr. Cina Mosito as my supervisor. My research topic is; 'The demand and supply of secondary school teachers in the Western Cape'.

The primary objective of the study is to find out the factors that influence demand and supply of secondary school teachers and the mechanisms that schools employ when supply does not satisfy demand. The sample consists of principals of selected secondary schools in the Western Cape, teachers and heads of schools or faculties of education in the four Western Cape universities.

The purpose of this letter is to request your participation in the study as a Dean of the School of Education at the University of Stellenbosch. Your response will be confidential; as both your identity and your department will not be associated with the responses.

Looking forward to your reply.

Sincerely,

Ayuk Emmanuel Enow
(Researcher)

2 Anne Street
Mandalay
7785
27 February 2009

**The Dean
Faculty of Education
University of Western Cape.**

Dear sir/madam:

**RE: Request for your participation in A letter of explanation regarding my research –
Study on the demand and supply of secondary school teachers in the Western Cape.**

I am a master's student at the Cape Peninsula University of Technology with Dr. Cina Mosito as my supervisor. My research topic is; 'The demand and supply of secondary school teachers in the Western Cape'.

The primary objective of the study is to find out the factors that influence demand and supply of secondary school teachers and the mechanisms that schools employ when supply does not satisfy demand. The sample consists of principals of selected secondary schools in the Western Cape, teachers and heads of schools or faculties of education in the four Western Cape universities.

The purpose of this letter is to request your participation in the study as a Dean of the School of Education at the University of Western Cape. Your response will be confidential; as both your identity and your department will not be associated with the responses.

Looking forward to your reply.

Sincerely,

Ayuk Emmanuel Enow
(Researcher)

**2 Anne Street
Mandalay
27 February 2009**

**The Director
School of Education
University of Cape Town**

Dear sir/madam:

**RE: Request for your participation in A letter of explanation regarding my research –
Study on the demand and supply of secondary school teachers in the Western Cape.**

I am a master's student at the Cape Peninsula University of Technology with Dr. Cina Mosito as my supervisor. My research topic is; 'The demand and supply of secondary school teachers in the Western Cape'.

The primary objective of the study is to find out the factors that influence demand and supply of secondary school teachers and the mechanisms that schools employ when supply does not satisfy demand. The sample consists of principals of selected secondary schools in the Western Cape, teachers and heads of schools or faculties of education in the four Western Cape universities.

The purpose of this letter is to request your participation in the study as a Director of the School of Education at the University of Cape Town. Your response will be confidential; as both your identity and your department will not be associated with the responses.

Looking forward to your reply.

Sincerely,

Ayuk Emmanuel Enow
(Researcher)

Appendix I: Questionnaire to the Deans/Directors of faculties/schools of education

Questionnaire to the Deans/Directors of school of Education

STUDENT ENROLMENT				
		1	2	3
1.	How can you describe the enrolment rate of pre-service student teachers in your department/faculty in the past five years?			
Key For Question 1: 1=On the Increase; 2=No Change (has remained the same); 3=On the Decrease				
2.	What could account for the answer you give in Question 1			
3.	If numbers of enrollees are decreasing, what do you think could be done to inspire more people to enter the teaching profession?			
MAJOR SUBJECT CHOICE				
4.	Do some learning areas have more student-teachers than others?	YES	NO	
5.	What are the popular choices?			
6.	What in your opinion influences the subject choices of pre-service teachers?			

	<p>Do the graduated student teachers go in to teaching?</p>
--	--



**FACULTY OF EDUCATION AND SOCIAL SCIENCES
DEPARTMENT OF RESEARCH**

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**The Higher Degrees Committee
24 January 2011**

Language editing of M.Ed. Thesis (Ayuk Emmanuel)

**I hereby confirm that I have edited the Master of Education thesis,
'The Demand for and Supply of Secondary School Teachers in the
Western Cape Province of South Africa', submitted by Ayuk Emmanuel,
Student Number 207026920**

Thank you

Dr C. M. Kwenda

GET Department

