

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

The rationale for researching the relationship between the funding and the quality of education in South African secondary schools stems from three perspectives. From a personal perspective, I have been involved in educational institutions at micro, meso and macro levels both as a teacher/lecturer and as a manager striving to provide quality education. From a systems' perspective, every effort is being made by the state to improve the quality of education and to achieve equity since the onset of the new democracy in South Africa after the 1994 elections. The system was restructured, funding levels were increased and funding formulae were changed a number of times (1998, 2006 and 2009). However, South African learners have been underperforming in regional and international assessments like TIMMS, PIRLS and SACMEQ³². From the perspective of international literature, we have the international programme on Education for All (EFA) driven by UNESCO as part of the worldwide quest to improve the quality of education³³ as well as the international debate on the relationship between funding and the quality of education³⁴. I thus became more and more intrigued by questions related to the amounts of money being spent on education and the performance of learners in the Senior Certificate Examination in public secondary schools in South Africa.

The purpose of this research was to analyse the relationship between the funding of education and the quality of education in selected diverse top performing secondary schools in the Gauteng province of South Africa. The main question investigated was: *“What is the relationship between the funding of education and the quality of education in selected diverse top performing*

³²See paragraph 2.3 of chapter 2 for the detailed discussion

³³See paragraph 2.2 of chapter 2 for the detailed discussion

³⁴See paragraph 1.7.4 of chapter 1 for the detailed discussion

secondary schools in the Gauteng province of South Africa?”. The main question led to the following sub-questions: (i) *Which factors have a direct impact on the performance levels of selected diverse top performing secondary schools in the National Senior Certificate examinations?* (ii) *To what extent are the funds available to selected diverse top performing schools spent on aspects that contribute to improving the quality of education in the research sample?* (iii) *To what extent does spending more funds on developing the skills of educators in the research sample improve the quality of education as reflected in the Senior Certificate Examinations?*

The theoretical background to the study was discussed in chapters two to four, the methodology was discussed in chapter five and the data analysis was discussed in chapter six. In this chapter I will briefly summarise the content of chapters one to six of my dissertation before proceeding to discuss the findings and recommendations based on my research in paragraphs

7.2 Reflection on and integration of literature review

Equity in the South African education system has been advanced in two ways. One has been to bring about more equitable learner-educator ratios within provinces based on an equitable post-provisioning model. The other equity effort is focused on the *National Norms and Standards for School Funding* with its intention of redistributing recurrent non-personnel expenditure to the most needy schools. The one variable that has a direct relation to learner output, namely teacher quality, has not been significantly affected in current equity plans (Wildeman, 2000: 10). Louw, van den Berg and Yu (2006: 1) found that intergenerational social mobility within race groups improved over the period 1970 to 2001, with *the indices suggesting that South African children are currently better able to take advantage of educational opportunities than the bulk of their peers in comparable countries. However, significant racial barriers remain in the quest to equalise educational opportunities across the board for South African children.*

7.2.1 Quality education

This aspect was discussed in detail in chapter two of this research report. To reiterate: it is important to distinguish coaching, training, education and quality education. It is common practice in South African to refer to teaching and learning when education is meant (when I googled ‘*culture of teaching and learning in South Africa*’, I got 4,420 000 hits; and when I changed the phrase to read ‘*restoring the culture of teaching and learning in South African public schools*’ I got 2080 000 hits, with prominent South African academics being quoted such as MX Lethoko, AG Kruger, GM Steyn, HJ Joubert, MC Phurutse and J Heystek among them). Teaching and learning are activities inherent to the education process, but cannot be limited to that. For the purposes of this dissertation education was defined as the integration of new knowledge, the associated skills and related value systems enabling the learner to apply it in real life situations (*my formulation*). The quality of the education is assessed on the value that the school leaver adds to the community.

SASA refers to the quality of education on four occasions. Firstly, the preamble to SASA expresses the intention that a new national system for schools will *provide an education of progressively high quality for all learners and in so doing lay a strong foundation for the development of all our people’s talents and capabilities*. Secondly, SASA stipulates in Section 8(2) that the code of conduct for learners must be *aimed at establishing a disciplined and purposeful school environment, dedicated to the improvement and maintenance of the quality of the learning process*. Thirdly, the first function of the governing body of a public school, as contained in Section 20(1)(a) of SASA, is to *promote the best interests of the school and strive to ensure its development through the provision of quality education for all learners at the school*. Finally, when referring to the obligation of the governing body of a public school to supplement the resources supplied by the State in Section 36(1) of SASA, the purpose thereof is stated as “*to improve the quality of education provided by the school to all learners at the school*”.

The role, relevance and impact of quality education in terms of this dissertation are dealt with in the paragraphs below.

7.2.1.1 Indicators of quality education

In chapter two, reference was made to a number of indicators of the quality of education; the PIRLS, TIMSS, PISA, SACMEQ and ANA tests all primarily focus on the student's ability in language, mathematics and science to assess the quality of the education provided by the education system of the country concerned. The regional and international standardised tests are all of a quantitative nature

The sixteen indicators developed by the European Union are more comprehensive than just assessing language, mathematics and science. The sixteen dimensions or criteria have been grouped into four categories namely, (i) Attainment, (ii) Success and transition, (iii) Monitoring education and (iv) Resources and structures. In assessing these dimensions the approach is of a qualitative nature. This instrument has not been used to assess the quality of education in South Africa before.

In South Africa, the results of the National Senior Certificate Examination of a secondary school are still used as the most common indicator of the level of performance and quality of the education provided at any given school³⁵. This is the yardstick applied by the state and the respective departments of basic education as well as by parents and communities. The primary considerations for selecting the sample schools were that they were among the top performing schools in the country and Gauteng and that they had to be diverse. All of them had to have a 100% pass rate in the NSCE for the past three years to be included in the sample.

³⁵Quoting the Minister of Basic Education - see paragraph 2.3.6.2 in chapter 2

The fact that the sample schools maintained a 100% pass rate for the last number of years implies that they have been providing education of an outstanding quality.

7.2.1.2 Performance levels

Table 7.1: *Academic performance levels*

Aspect	Avg	I	II	III	IV	V	VI
Univ. entrance (%)	75.2	83.9	98.0	83.8	75.3	74.7	35.3
Distinctions/learner	1.5	1.2	3.3	1.8	1.3	1.1	0.3
Overall average (%)	60.9	55	67	68	64	60	47
English (%)	67.2	64	75	72	74	67	52
Mathematics (%)	63.9	60	71	68	68	58	58
Physical science (%)	58.5	59	66	64	62	58	42

Table 7.1 represents a composite picture of six indicators related to the performance of the six sample schools for the window period 2007 to 2009. On average only 20% of South African students qualify to enrol for tertiary studies at a university (UK 20% - based on 2001 census information <http://www.thestudentroom.co.uk/showthread.-php?t=894755> – accessed on 15/11/2011 ; USA 27% - http://en.wikipedia.org/wiki/Education_in_the_United_States - accessed on 15/11/2011; Canada 24% - <http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=56> – accessed on 15/11/2011). . Except for School VI, all the schools have an outstanding number of students that gain entry to tertiary training (75.2% on average while school VI had a 35.3 % university entry, which is almost twice the national average.

The average number of distinctions per learner is 1.5 for the schools under investigation. That means that every grade twelve learner in the sample obtained more than 80% in at least one out of six subjects that they normally offer for the NSCE. The overall average for the window period, was calculated for the eight subjects included in Section A of the questionnaire namely, Afrikaans, English, Third language, Mathematics, Biology (Life sciences),

Physical sciences, Accounting and Economics. With one exception all the schools achieved an average of more than 50% in most subjects. In South Africa, the average mark obtained in any given subject in the NSCE is, similar to the pass rate of a school in the NSCE, an indicator of academic standard and quality of education. To pass the NSCE a learner must pass one (of the eleven) official language at home language level at 40% or more; 2 other subjects at 40% and 3 subjects at 30%. This translates to a pass mark of 35% on average. An average pass mark of more than 50% thus exceeds the norm by 15% (<http://www.education.gov.za/LinkClick.aspx?fileticket=6s3VBeAo4V4%3D&tabid=390&mid=1127>;
http://harvestchristianschool.co.za/index.php?option=com_content&view=article&id=67&Itemid=159;
http://en.wikipedia.org/wiki/National_Senior_Certificate - accessed on 29/11/2011).

This will obviously vary from subject to subject as was evident from Table 6.6 in chapter 6.

7.2.1.3 Class size

As discussed in chapter two³⁶ and from the evidence obtained during the interviews and depicted in Table 6.22 in chapter six, it is evident that class size is a determining factor in the academic performance of schools. We saw that research in the USA indicated that the ideal class size is between 16 and 20. It is a factor that has to be taken into consideration when managing academic performance levels in all schools. It is also evident from the feedback from all the principals that they are fully aware of this fact and that they are taking active steps to manage this factor in their respective schools. None of the sample schools have classes as small as the reported ideal of between 16 and 20, but it seems to be working for them. All the schools provide for this factor when planning their staff provisioning for any given year. For the independent schools, this is a package deal and is factored in from the outset in both their financial and human resource planning. However, for the public schools it is a

³⁶See paragraph 2.3.7 in chapter 2.

complex aspect that is addressed by appointing staff in addition to their formal staffing establishments paid for by the state. These staff members are employed by the school and are remunerated from school funds. Financial means is thus a limiting factor in managing class size in all schools; both public and independent.

7.2.1.4 Technology

A number of types of uses of what is loosely termed *technology* are in found the schools that formed part of this research project. It varied from the use of overhead projectors in classrooms to state of the art interactive smart boards and the incorporation of cell phone technology in revising curricula. However, none of the respondents were of the opinion that technology was a prerequisite for academic success. They all agreed that it made life easier for the teacher / educator, but did not consider access to technology as essential to provide quality education. Students respond well to the use of technology and consider teachers that use it as being *cool*. The principal of School V put it this way “*Students relate to this very well and their focus is on their work and the technology they are familiar with*”.

7.2.1.5 Teacher / educator

All the respondents were unanimous in their opinion that the single most important factor determining academic performance in providing quality education is the teacher / educator. This sentiment was phrased neatly by the respondent from School III: “*The academic success of the school is primarily linked to the vision, drive and dedication of the teachers on the one hand and the fact that they know that they can count on the support from the school management*”. This is consistent with the findings of Gustafsson (2003: 103) who found that *among resource factors, teacher competence is the single most powerful factor in influencing student achievement, and the effect sizes seem to be substantially larger than those associated with class size*.

7.2.1.6 Role of money

All the respondents indicated that money plays a definite role in the appointment of additional staff in order to allow for smaller classes and in the acquisition of technology. With the exception of one public school, none of the schools have budgets specifically for academic departments managed by an HOD. None of the schools budget specifically for final preparations or special classes for grade twelve learners writing the NSCE. Teachers do offer extra classes, but this is done without any extra remuneration. Attendance of winter and summer schools organised as part of the final preparations for the NSCE is not compulsory and are paid for by parents from their own pockets. Money does therefore play a role in the academic results of the sample schools. The expenditure on additional staff is for the benefit of the entire school and not for grade twelve only and therefore indirectly improves the NSCE results. The money parents pay for extra classes over and above what the school offers for free, and for attending winter / summer schools directly impacts the NSCE results.

7.2.1.7 Managing academic performance³⁷

All the schools delegate the responsibility of managing the academic performance of the respective grades to senior members of staff. With regard to the NSCE this responsibility normally rests on one of the Deputy Principals or the Principal him- / herself. In all schools, in line with Section 16A of SASA, all principals take the final responsibility and are accountable for the results of grade twelve learners in the NSCE (see paragraph 6.5.3 of chapter six). Managing academic performance requires regular assessment with regular feedback to the student and his/her parents. It involves detailed analysis of results; close monitoring of the progress of individual students and complex strategies to provide support and remedial work with underperforming students. This includes extra classes on study methods and

³⁷Academic performance refers to a holistic approach to managing the results achieved by individual students/learners in the respective subjects that they are enrolled for in an entire school. It can be considered as part of the management of teaching and learning in schools, but represent a specialised focus.

counselling by professional staff such as (educational) psychologists. It is a very hands on and involved process.

7.2.2 Legislative framework

This aspect was discussed in detail in chapter three of the dissertation. What follows is a summary of legislation as it pertains to key role players in the provisioning of quality education in the South African education system. The obligations of these role players in the provision of education to the citizens of the country, as contained in legislation, are spelt out in the paragraphs that follow.

The government of the democratic *State* of the Republic of South Africa is obliged by law, in terms of Section 29(1) of the South African Constitution, to honour the right to a basic education for every South African citizen. It is further obliged to establish public schools in terms of Section 12 of SASA and to fund public education from public revenue in terms of Sections 34 and 35 of the South African Schools Act (SASA).

In terms of Section 1 of SASA, a *parent* is defined as –

- (a) *the parent or guardian of a learner;*
- (b) *the person legally entitled to custody of a learner; or*
- (c) *the person who undertakes to fulfil the obligations of a person referred to in paragraphs (a) and (b) towards the learner's education at school.*

In terms of Section 3(1) of SASA and any applicable provincial law, *every parent must cause every learner for whom he or she is responsible to attend a school from the first school day of the year in which such learner reaches the age of seven years until the last school day of the year in which such learner reaches the age of fifteen years or the ninth grade, whichever occurs first.*

All South African citizens are obliged to pay income tax to the state in terms of Section 5(1) of the South African Income Tax Act, Act 58 of 1962. The

parent of a learner attending a public school in quintile 4 or 5 is obliged to pay school fees in terms of Section 40 and public school may by process of law *enforce the payment of school fees by parents who are liable to pay* in terms of Section 41 of SASA. However parents may also be exempted (proportionally or fully) from the payment of school fees if they meet the criteria set out in Section 40 of SASA³⁸.

SASA defines a **school** as *a public school or an independent school which enrolls learners in one or more grades from grade R (Reception) to grade twelve*. In terms of SASA a **“learner”** means *any person receiving education or obliged to receive education in terms of this Act*. A **public school** means *a school contemplated in Chapter 3 of SASA*. Every public school is *a juristic person, with legal capacity to perform its functions* in terms of Section 15 of SASA. An **independent school** means *a school registered or deemed to be registered in terms of Section 46 of SASA*. Subject to SASA and any applicable provincial law, *any person may, at his or her own cost, establish and maintain an independent school* (s.45 of SASA). It is assumed that schools have the obligation to provide education in order to qualify for the title, irrespective of whether it is a public or independent school.

A **school governing body** means a governing body contemplated in *Section 16(1) of SASA where the governance of every public school is vested in its governing body which may perform only such functions and obligations and exercise only such rights as prescribed by the Act and a governing body stands in a position of trust towards the school*(s.16 (2) of SASA). The functions of the school governing body of all public schools are spelt out among others in Section 20 of SASA. Governing bodies of public schools may also apply to be allocated one or more of the additional functions contained in Section 21 of SASA. At a minimum, the governing body of a public school is, in terms of Section 20(1)(a) of SASA, obliged to and must *promote the best interests of the school and strive to ensure its development through the provision of quality education for all learners at the school*.

³⁸See the detailed discussion on exemption and no fee schools in paragraph 1.7.2.

A **principal** is defined as *an educator appointed or acting as the head of a school* in SASA. The responsibilities of a principal are set out in Sections 16(3) and 16A of SASA and in paragraph 4.2 of the *Personnel Administrative Measures* (hereafter referred to as the PAM). Section 16A(2)(a)(i) of SASA determines that *in undertaking the professional management of a public school as contemplated in Section 16(3), the principal must carry out duties which include, but are not limited to the implementation of all the educational programmes and curriculum activities*. The principal further has specific obligations regarding the academic performance of his/her school. These are contained in Section 16A (1)(b)(i) that stipulates the principal must prepare and submit an *annual report in respect of the academic performance* of that school to the Head of Department; and in Section 16A(1)(c)(i to v) that requires the principal to develop an *academic performance improvement plan* for submission to the provincial Head of Department for education, if the school is underperforming.

A **learner** is defined in chapter one of SASA as *any person receiving education or obliged to receive education in terms of this Act*. The Member of the Executive Council responsible for education in a province is obliged to ensure that *there are enough school places so that every child who lives in his or her province can attend school* as required by Sections 3(1) and 3(2) of SASA. In doing so, he / she is thus meeting the obligation to ensure access to education. If a child does not attend school, the Head of Department responsible for education in a given province may –

- (a) *investigate the circumstances of the learner's absence from school;*
- (b) *take appropriate measures to remedy the situation; and*
- (c) *failing such a remedy, issue a written notice to the parent of the learner requiring compliance with subsection (1) in terms of Section 3(5) of SASA.*

Any parent who, *without just cause and after a written notice from the Head of Department, fails to comply with subsection (1), is guilty of an offence and liable on conviction to a fine or to imprisonment for a period not exceeding six months* in terms of Section 3(6)(a) of SASA. In terms of Section 3(6)(b) of

SASA any other person who, *without just cause, prevents a learner who is subject to compulsory attendance from attending a school, is guilty of an offence and liable on conviction to a fine or to imprisonment for a period not exceeding six months.* In terms of Section 3(1) of SASA, a parent is obliged to ensure that “*every learner for whom he or she is responsible*” attend a school from the first school day of the year in which such learner “*reaches the age of seven years until the last school day of the year in which such learner reaches the age of fifteen years or the ninth grade, whichever occurs first*”. Despite the obligations imposed on the state and the parent, learners are obliged to attend school and to study in order to claim their constitutional right to education.

7.2.3 Accountability

This aspect was discussed in detail in paragraphs 4.2.3 and 4.5 of chapter four of this dissertation. In management terms, it is common cause that accountability is inseparably linked to an individual in a position of authority in an organisation. After delegating specific responsibilities to a subordinate, the supervisor has the right to demand feedback from the subordinate and the subordinate is obliged to respond to such a request³⁹. This also applies to the different role players in the provisioning of education in South Africa.

The government of the day was mandated by the electorate to provide education and therefore has to account to them on both the quality of the education provided and the public money spent on education.

The departments of education as organs of state have to account to both the government and the electorate on the provisioning of facilities and access to education in terms of Section 12 and on the funding of education in terms of Sections 34 and 35 of SASA. They also have to account to the government and the electorate on the quality of the education provided in terms of Section 29(1) of the Constitution.

³⁹See paragraph 4.2.3 in chapter four

Principals have to account to both the provincial departments of education as their employer and to the parent community on the academic performance of the school in terms of Sections 16(3) and 16A of SASA. As an ex officio member of the SGB, they are also collectively accountable for the actions (or lack thereof) of the SGB.

The individual teacher has to account to the principal as professional manager and representative of his / her employer and to parents on their performance as teachers. This performance relates to all the roles and functions expected of a professionally qualified teacher, registered with the South African Council for Educators (SACE).

School governing bodies are elected by parents of learners of public schools and constituted in terms of Sections 28 to 32 of SASA. As such they are then accountable to the parent community that elected them and to the state in terms of Section 16(1) of SASA to *perform only such functions and obligations and exercise only such rights as prescribed by the Act.*

The legal obligations of parents and learners are discussed in paragraph 7.5.1 above and parents have to account to the State in this regard. Learners are obliged to account to both parents and teachers for their academic performance at school.

7.2.4 To summarise

Chapter 2 and paragraph 7.2.1 above on the quality of education gives a representative overview on the broad international debate on the relationship between funding and quality of education. This debate has been going for decades and numerous researchers both nationally and internationally have made contributions; although it has not been exhausted yet. Important moments in the macro level debate was the work of Coleman (1966; with the publication of the Coleman Report) and Katarina Tomasevski (1999 on the right to quality education typified by the 4As). The tussle between the views

whether the relationship is linear or not is still continuing. Key role players in the international arena are Jencks, Hanushek, Monk, Greenwald, Carnoy, Crouch, Cohen, Ball, Raudenbush and many others. In the South African context, the contributions of Case & Deaton, Crouch, Perry, Fiske & Ladd, Fleisch, Motala E and Motala S, Wildeman and van den Berg (in no particular order) and others were invaluable. It has become clear that this relationship is not simplistic and that numerous factors (both in systems as well as institutional contexts) play a role. It has also become evident that many of these factors are interrelated; these include issues of access/exclusion, equity, equality, levels of funding, class size and the teacher. My research has again brought these factors to the fore and I am of the view that one will never arrive at a point where research on issues of quality and funding will have exhausted the topic. It can only lead to a better and more comprehensive understanding of the debate and the factors impacting on it.

In my research I have added the chapters on the legal framework within which education, as preparation for the NSCE, is delivered and aspects of accountability, as it pertains to both the financial management of funds at public schools and the professional management of all the schools in the research sample. This was done for reasons of contextualisation and to afford a frame of reference to international readers of this dissertation.

I will now proceed to discuss my findings based on my research questions and the ensuing research aims.

7.3 Findings

As indicated in chapter one, the purpose of this research was formulated as “*to analyse the relationship between the funding of education and the quality of education in selected top performing secondary public schools in the Gauteng province of South Africa*”. Emanating from this, the main research question to be investigated, were formulated as follows: *What is the relationship between the funding of education and the quality of education in selected top performing secondary public schools in the Gauteng province of South Africa?*

An ensuing number of sub-questions were formulated to read: (i) Which factors have a direct impact on the performance levels of public secondary schools in the National Senior Certificate examinations? (ii) To what extent are the funds available to public schools spent on aspects that contribute to improving the quality of education in the research sample? (iii) To what extent does spending more funds on developing the skills of educators, improve the quality of education as reflected in the Senior Certificate Examinations, in the research sample?

These sub-questions were reformulated as research aims. I will now proceed to discuss seriatim what was found in regard to each aim.

7.3.1 The relationship between funding and the quality of education.

With regard to the main research question regarding the relationship between the funding of education and the quality of education in selected top performing secondary public schools in the Gauteng province of South Africa my research showed that there is a relationship but that it is an indirect one; that relates to the provisioning of staff and class size. This statement is based on the responses to questions 5 and 8 in the questionnaire reported and discussed in detail in paragraphs 6.3.3 and 6.3.4 of chapter six.

7.3.2 Factors impacting on the quality of education in the research sample.

The results in the national senior certificate examinations are, in this context, equated to and used as indicator of the quality of education. Regarding the question on which factors have a direct impact on the performance levels of public secondary schools in the National Senior Certificate examinations, the research showed that there are four primary factors impacting on academic performance in the NSCE, namely the individual teacher / educator, the

management of academic performance, the use of technology to provide management information to inform the management process, and class size.

7.3.2.1 The teacher / educator

Fleisch (2004: 265) gives an comprehensive overview of both national and international research on educators as a resource impacting on the quality of education and then summarises as follows “... *although some inconsistencies have emerged, the South African literature appears to point to the conclusion that teachers are a 'crucial' input into the education process*”. The critical role of the teacher/educator came to the fore in the respondents’ answers to questions 6, 7 and 9 of the questionnaire as discussed in paragraphs 6.2.7 and 6.3 of chapter six. The demographic profile of the generic grade twelve teacher / educator was depicted in Table 6.13. The feedback from the respondents and the discussion in paragraph 6.2.7 enabled me to construct a profile of a grade twelve teacher determining the success in the NSCE. The respondents collectively mentioned the following twenty critical dimensions which made educators the primary determining factor in their schools’ success in the NSCE:

- Identifying with and living the school’s vision and or motto,
- A positive attitude, values and norms,
- Being passionate about what they do,
- Enthusiasm,
- Contentedness (job satisfaction),
- Motivation,
- Innovativeness (doing things differently),
- Drive,
- Being purpose–driven,
- Commitment,
- Dedication,
- Involvement,
- Being there for the child,
- Expert subject knowledge,
- Being thoroughly prepared every day,
- Teaching skills,
- Experience,
- Teamwork,
- Support from the SMT, and
- Many hours of hard work!

A crucial aspect related to ‘expert subject knowledge’ that merits further investigation in future research of this nature, is what has been referred to as *pedagogical content knowledge* (i.e. subject matter knowledge for teaching) (Shulman, 1986 in Hill, Rowan and Ball, 2005:376)

7.3.2.2 Management of academic performance

Based on the responses reported in paragraph 6.5.2.7 in chapter six, it is my opinion that, second to the role of the teacher, this is probably the most important factor determining success in the NSCE. This process requires the dedicated attention of a senior member of staff. My results showed that this responsibility is, in one instance (School VI), handled by the principal personally and in all other instances by a deputy principal. HODs play a crucial role in managing the academic performance of their departments by moderating tests and test results to capture management information regarding the individual performance of students. Schools differed, but all of them used either grade heads and or tutors to assist HODs in the management of academic performance of learners in general and the grade twelve learners in particular.

The schools offer a counseling service to learners in general and grade twelve learners specifically. This service is rendered by professional persons appointed for that purpose or by senior members of the SMT. The role that the School-Based Support Team of School V plays is a typical example.

The success of the management of academic performance hinges on the close scrutiny and hands-on monitoring of the academic performance of the individual learners and regular feedback to both learners and their parents. All the respondents confirmed that parental interest and involvement regarding their own child’s performance is very good. The role of parental involvement in managing the academic performance of individual learners and an effective communication system to support this was evident in all the sample schools. The importance and impact of this factor is alluded to in Woolman & Fleisch, (2009: 237) quoting Brand as saying, “*By promoting, community engagement and parental responsibility, the modified fees system created by the state may*

well foster the kinds of changes in institutional culture that, as much as increased resources, affect the quality of education. The influence of this factor warrants an investigation on its own as another crucial determinant (my view) in the results achieved in the NSCE and the quality of education in general.

Although it did not happen in grade twelve, it is important to take note of the premium School II places on maintaining a set standard of academic performance. When students were underperforming in a given test the school took the drastic step of holding back the results, re-teaching the work concerned and re-writing the test before releasing the results in a specific subject. This is further manifested in the fact that the school achieved an average of 3.3 distinctions per grade twelve learner for the period under investigation; this is more than double the average of 1.5 achieved by all the sample schools. A further factor that in my opinion contributes to School II's remarkable results is the role of the benchmarking strategies that they employ (see paragraph 6.3.2 in chapter six for a detailed discussion) in the final preparation of the grade twelve learners for the NSCE.

7.3.2.3 The use of technology

The conclusions arrived at in this paragraph are based on the responses to Questions 5 to 8 of the questionnaire as reported in d the discussions in paragraph 6.5.2.4 of chapter six. The kind of technology encountered in schools varied largely.

All schools had access to overhead projectors. In some schools these were in the process of being replaced with data projectors linked to either a desktop computer or a laptop. All the schools have one or more computer laboratories with, on average, 30 workstations linked to the internet. At least one laboratory is used extensively for the teaching of Information Technology (IT) and Computer Aided Teaching (CAT). The other computer laboratories were used in a supportive and a remedial role. Computer laboratories have to be booked when used in offering the national curriculum subjects. Specialised

software is used where they are used in a remedial role. The use of cell phone technology is currently limited to Schools I and V and in both instances it is used on a limited scale.

In all instances the respondents were of the opinion that technology played a supportive role in the education process, but that it was not a prerequisite for academic performance. Where it does play an important role is in the administration of schools. It records information that serves as management information for the general management of the school, but more specifically regarding learner performance and the management of academic performance.

7.3.2.4 Class size

It was established from the literature in that class size is a critical factor impacting on academic performance (http://ed.gov/pubs/ReducingClass/Class_size.html - accessed on 24/05/2011;).) My research showed that all the sample schools were aware of this and that all of them annually incorporated this factor into planning their human resource needs. They consciously budget for and plan their staffing needs based on a predetermined average class size. The respondents' answers to questions 6 and 9 of the questionnaire reported in paragraphs 6.3.3 and 6.5.2.3 of chapter six and the information in Tables 6.21 and 6.22 confirm this. The independent schools had an average class size of 25, whereas the public schools had an average class size of 35. The smaller class sizes in public schools are made possible through the appointment of additional staff from school funds by the school governing bodies.

7.3.3 The role of money.

The answer to the question regarding the extent to which funds available to schools are spent on aspects that contribute to improving the quality of education in the research sample as manifested in the NSCE results, is primarily found in the responses to questions 5 and 8 of the questionnaire.

However, the responses to questions 6 and 7 were also relevant in this context. These responses are reported in detail in paragraphs 6.2.10 to 6.2.12 as well as paragraphs 6.3.3 and 6.3.4 of chapter six. Based on the feedback from the respondents, the following constitutes a hierarchy of priorities on which funds available to schools are spent on improving the quality of education:

- Additional staff to reduce class size
- Staff development
- Technology

These findings are consistent with the work of Motala (2006: 208) in two respects. First, it revealed that private funding by parents is used towards quality related inputs employing additional educators to reduce class size and second that *“parents connect private contributions with quality schooling”*. Future research should consider factoring in the equitable distribution of available funds within-school context as alluded to in the work of Wenglinsky (1998: 269) where it was found that *“spending on instruction and capital expenditures, while not related to mean achievement levels, were related to differences in achievement between SES groups; lower spending levels are associated with greater achievement gaps within schools”*

7.3.4 Staff development.

My response to the question regarding the extent to which spending more funds on developing the skills of educators improves the quality of education as reflected in the Senior Certificate Examinations, is that based on my research, it is not possible to quantify this factor or to give a conclusive answer. All the schools have a specific budget for this purpose. It varies vastly yet all schools seem to be performing well.

The fact that the research showed conclusively that the teacher is the primary factor impacting on the quality of the academic results of the school, implies that any money spent on developing the knowledge or skills of the educators will of necessity have a positive influence. This money is earmarked for the development of the entire staff of the schools. It is thus not possible to

attribute this expenditure conclusively to the level of achievement in the NSCE.

7.4 Conclusions based on assumptions

At the onset of my research, I assumed the following can be regarded as non-negotiable for providing quality education in any education system:

- *Motivated, well qualified teachers facilitating teaching and learning in a constructive manner*
- *Schools that provide the minimum infrastructure required for an environment conducive to effective teaching and learning*
- *Functional teaching and learning support material*
- *Sufficient funding to finance the above*
- *High standards of management and governance at micro, meso and macro levels in the education system ensuring the efficient and effective realisation of educational objectives at the respective levels in the organisation*
- *Sound articulation between the education system on one hand and the economy on the other hand (economy is used here in its broadest context to include all sectors of the economy of any country. As per definition of economy, this should include balancing the needs of the country and the available resources).*

The research question ‘*What is the relationship between the funding of education and the quality of education in selected diverse top performing secondary schools in the Gauteng province of South Africa?*’, was investigated by making use of multiple case studies. Because it was a qualitative investigation utilising case studies from an interpretivist paradigm, there was no hypothesis testing. The result of the research process is a better and deeper understanding of the intricate relationship between the funding the funding of education and the quality of education provided in the sample schools that formed part of the investigation. Although the investigation was of a restricted

nature and case study work does not normally allow for generalisation, I want to formulate the following conclusions based on the research and findings for my dissertation:

There is a definite relationship between the funding and the quality of education in the schools that formed part of the investigation. However, the interdependence does not appear to be directly proportional. The unanimous view of all respondents were, that the primary factor that determined the quality of education as manifested in the results of the National Senior Certificate examination (NSCE), was the quality and commitment of the individual teacher in their schools. In addition to this, my research showed that the hands-on effective management of the academic performance of the entire school, but specifically that of the grade twelve learners plays a decisive role in the results achieved in the NSCE. Funding does contribute to the level of academic performance in the schools under investigation in that it allows for (i) smaller classes through the appointment of additional staff (teaching and administrative), (ii) the acquisition of (computer) technology for administrative and educational purposes and (iii) opportunities for staff development.

Testing some of these conclusions will however, require further investigation on a much larger scale, in a much wider context (as recommended below) before any general claims can be made.

Reflecting on the entire research process I was surprised by the absolute emphasis and prominence of the teacher's role in achieving academic excellence in every school that formed part of the investigation.

I expected that the use of the latest technology teaching aids would be considered to be a prerequisite for providing quality education in the schools under investigation and was amazed by the fact that no school viewed it that way. On the contrary, it was considered to be convenient but not a prerequisite.

The research was conducted in a small but very representative sample of a select group of schools. However, I consider the findings and recommendations of high importance and believe that it should form the basis for conducting similar research on a wider basis with a view of extrapolating the principles to other schools to improve the quality of education in all South African schools as recommended below.

7.5 Recommendations for improvement of practice and further investigation

7.5.1 Recommendations for improvement of practice

Based on the results of the research project contained in this dissertation, I would like to recommend that:

- a training programme specifically aimed at managing academic performance in schools be developed;
- criteria to assess the quality of education developed by the European Union be formally adapted for the South African context.

7.5.2 Recommendations for further investigation

Based on the results of the research project contained in this dissertation, I would like to recommend that:

- the research be extended to include other top performing schools in Gauteng;
- the research be extended to include other top performing schools outside Gauteng;
- the research be extended to include underperforming schools both in- and outside Gauteng;
- the influence of *pedagogical content knowledge* be factored into subsequent research;
- the role of parental involvement in academic performance (other than being a funder) and the quality of education.

7.6 Final impression

The quest to provide the best quality education in the most economic manner on an equitable basis remains a universal challenge!

This resonates well with National Development Plan, Vision for 2030 developed by the National Planning Commission stating:

By 2030, South Africa needs an education system with the following attributes:

- *High quality Early Childhood Development, with access rate exceeding 90%*
 - *Quality school education with globally competitive literacy and numeracy levels*
- (RSA, 2011d: 17)*