Changes in Education Since 1994

Nick Taylor
Brahm Fleisch
Jennifer Shindler

February 2008

Table of Contents

List of figures

CHAPTER 1: Introduction

This study was commissioned by the Policy Unit of the Office of the Presidency.

Aim
The Policy Unit is conducting a fifteen year review of government business. The main aim of the review is to assess the outcome and impact of policies, programmes and projects as implemented by government since 1994.

Objectives
The main objective of this study is to track changes in education provision post-apartheid focusing on issues relating to access, equity and quality. The aim is to provide statistical trends at all levels of education and highlight the most important interventions in the sector, their strengths and weaknesses as well as the persisting challenges.

Methodology

- Provide trends in education spending at all levels/bands
- Provide statistical trends in education achievement at all levels/bands, i.e. General Education and Training (GET), Early Childhood Development (ECD), Adult Basic Education and Training (ABET), Further Education and Training (FET). (secondary schooling), FET (college sector), Higher Education (HE).
- Identify other key indicators in education at all levels (bands), and provide a statistical assessment of their performance
- Identify and briefly describe the key interventions in education and assess their impact, - successes and challenges
- Reflect on the challenges and options for addressing these challenges.

Conference
The findings of the study, along with parallel studies in key subsectors of the economic and social sectors, were presented at a workshop on 3-4 March 2008.

Acknowledgements
This study would not have been possible without the cooperation of senior members of the Department of Education; in particular, Deputy Director Generals Firoz Patel and Penny Vinjevold were generous with Department of Education (DoE) information. Thanks also to Maureen Mosselson for providing editorial assistance.

CHAPTER 2: Finance

2.1 Introduction

Prior to 1994 the South Africa education system was characterised by inequality of provision, resourcing, access and quality. Since the democratic elections, redressing the legacy of fiscal inequalities, infrastructure backlogs and unequal outcomes in education has been the priority for the government.

The first part of this section explores the patterns of budgeting and expenditure on education between 1994 and 2007. We focus initially on the national patterns, analysing education expenditure patterns against overall patterns of state allocations and growth in the economy. We move from this to an analysis of the trends of expenditure by sub-sector or programme, i.e. public schooling, specialised schooling, adult education and training, early childhood education. The aggregate picture is often insufficiently nuanced. What is required is an examination of interprovincial trends with regard to spending on specific programmes. We conclude this part with an examination of trends in spending by economic category.

Part two of the finance section focuses on trends in equalisation of education expenditure. To guide our analysis we make use of Fiske and Ladd's distinction between equal treatment, equal opportunity, and adequacy (Fiske and Ladd, 2004). We explore the extent to which equal treatment has largely been achieved in terms of government expenditure on state institutions. The question of equality of opportunity is explored in the section on quality, specifically when we examine the uneven distribution of achievement. Towards the end of this section we explore some of the issues related to adequacy and its implications for education finance.

Russell Wildeman (2006, 2007), a regular commenter on the education budget has characterised the pattern of education finances over the past twelve years as 'business as usual', with little real attempt to use the budget as a lever to address the education crisis. Is this correct? This section will suggest that Wildeman's judgment is only partly correct. In the fifteen year review, it is evident that for the first period, provincial education departments, and to some extent universities, were expected to do more with less. More meant equalising education expenditure, addressing the historical backlogs and implementing new policies. Less meant that in real terms, the real allocations to education declined between 1996 and 2003 in a number of provinces. Only after 2003 has education expenditure actually increased, with certain smaller programmes or subsectors reaping the most benefit.

To understand the changes in the education budget patterns, it is necessary to briefly review the budget processes. In terms of the Constitution and national legislation, the budget process begins with Medium Term Revenue and Expenditure Framework. This framework is an instrument for planning expenditure over a three year cycle. Education departments, both national and provinces assess their needs and plan how to address

those needs. Each department prepares annual budget proposal that link goals and polices to expenditure. However, the final decision on the allocation to each department is dependent on the processes around the division of revenue. While division of the annual budgets between the three tiers of government, national, provincial and local is negotiated, the provincial share is formula-driven based on various factors such as population and poverty level. Once each provincial allocation has been determined, the executive council (provincial cabinet) makes the decision on the allocation of funding to each of the departments taking into account the recommendations of the Fiscal and Financial Commission on equitable (fair) division of revenue and provincial policy priorities.

2.2 Patterns of Spending on Education 1994-2007

This section focuses on the overall pattern or trends of state expenditure on education since 1994. We begin with an examination of the general pattern of budget allocations to education.

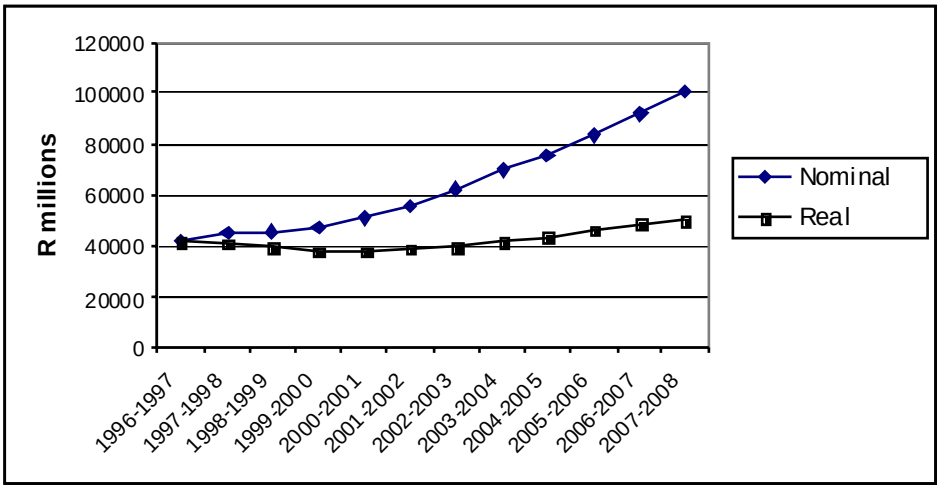
2.2.1 Public Expenditure on Education

Russell Wildeman, as part of the wider Institute for Democracy in South Africa (IDASA) budget monitoring project, has been systematically tracking educational expenditure in South Africa over the past ten years. He has recently shown that while educational expenditure had a brief sharp increase in the years immediately following the 1994 elections, real increases in educational expenditure only began in earnest in 2003. In other words, while the nominal amount of money in the budget had been going up, for much of the first decade of democracy the value of the funds allocated to education had actually declined or remained static.

In order to examine the patterns of education spending we have used a variety of indicators. We begin with an examination of the nominal and real expenditure patterns. To give a better picture of the impact of this expenditure, we have examined the financial data in terms of per capita expenditure on public primary and secondary schooling.

South Africa's education expenditure has grown from R30 billion in 1994/05 to R101 billion in 2007/08. Figure 1 shows a consistent upward trend in total education expenditure over the past twelve years. However, when inflation is taken into account inflation indexed expenditure declined in the late 1990s, recovering only in the 2003-2004 financial year.

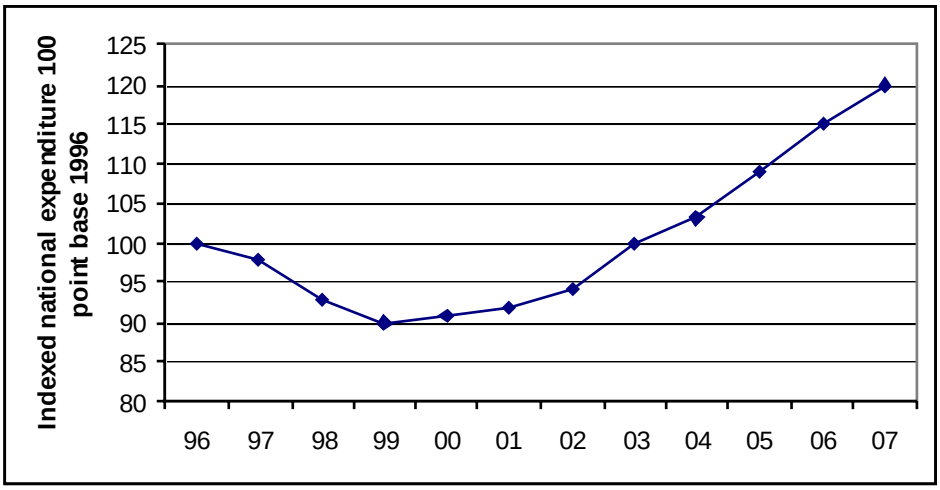
Figure 1: Nominal and real (R 1996) national education expenditure in South Africa, 1996-2007



Note: This is the national education expenditure figure calculated by Treasury, using standard International Monetary Fund (IMF) rules. The figure includes certain education and training expenditure occurring outside the education departments, in particular that relating to nursing and agriculture.
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

Figure 2 graphically demonstrates the trends in national education expenditure. Between 1996/07 and 2003/04, there was a decline in real expenditure. However, by 2007/08, expenditure had recovered and was 20% higher in real terms than it was 1996/97.

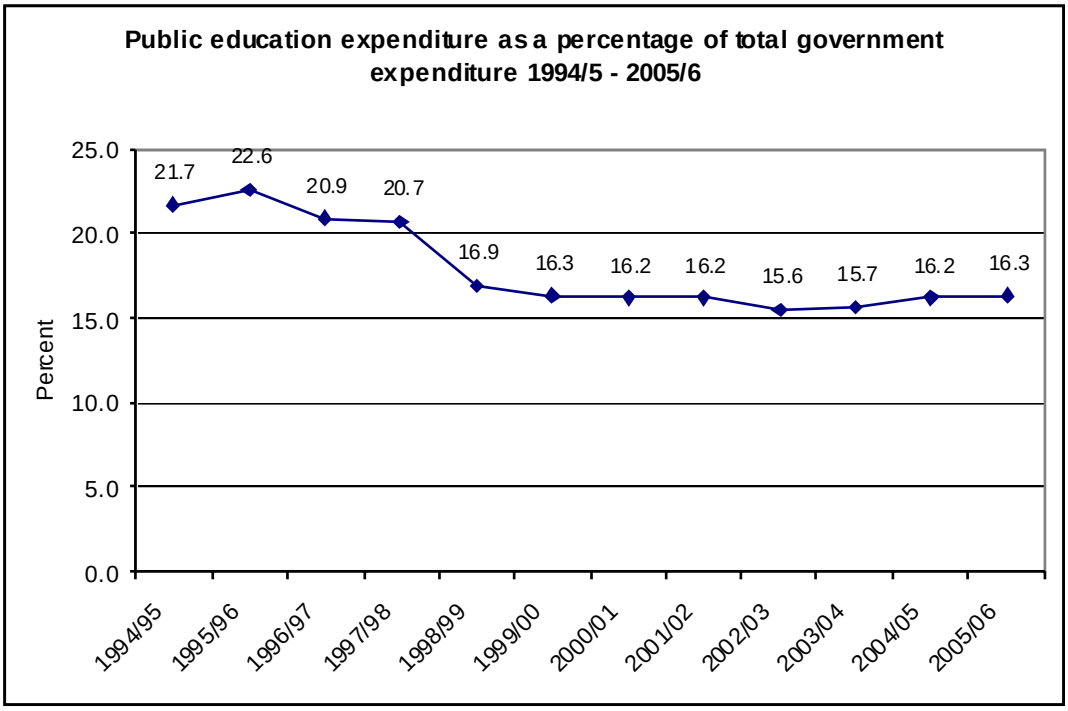
Figure 2: Indexed (R 1996) national education expenditure in South Africa, 1996-2007



Note: This is the national education expenditure figure calculated by Treasury, using standard IMF rules. The figure includes certain education and training expenditure occurring outside the education departments, in particular that relating to nursing and agriculture.
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

The decline in education expenditure in the late 1990s was more pronounced than the national expenditure trend overall. Figure 3 shows that education's share of government expenditure actually declined from almost 22% of total state expenditure in 1994 to just over 16% in 2005.

Figure 3: Public education expenditure as a percentage of total government expenditure 1994 - 2005



Note: Total government expenditure includes expenditure by all layers of government, including all local government expenditure and expenditure by certain parastatals. It excludes interest payments
Source: National Treasury, (2007). Intergovernmental fiscal review (IGFR) 2007, and National Treasury, (2007). Provincial budget 2007: budget statements. Pretoria: The Treasury

Another way of examining this is to analyse the proportion of the provincial budget allocated to education. With the exception of the Free State and the Northern Cape, the proportion of the provincial budgets expended on education has fallen. In some instances, the drop has been dramatic. For example, the North West education budget as a percentage of overall provincial spending declined from a high of 48% to just over 40%.

Figure 4: Provincial education expenditure as a percent of total provincial expenditure

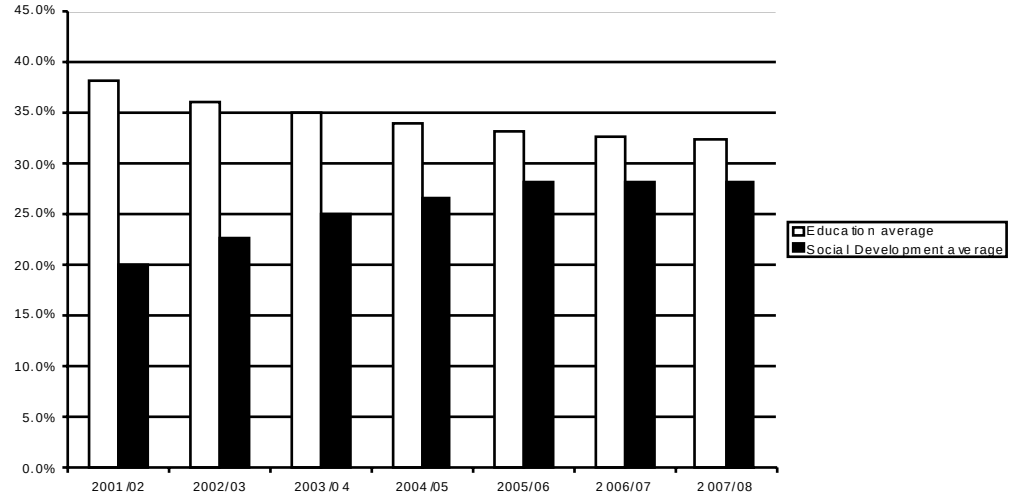
Province	Eastern Cape	Free State	Gauteng	KwaZulu Natal	Limpopo	Mpumalanga	Northern Cape	North West	Western Cape	Total
2002/03	49.0%	36.3%	38.2%	45.9%	50.9%	49.6%	33.8%	47.9%	40.6%	44.4%
2003/04	46.8%	35.4%	40.0%	46.4%	50.1%	49.9%	31.0%	47.5%	40.5%	44.1%
2004/05	49.4%	34.0%	39.7%	46.5%	51.3%	48.5%	29.7%	46.8%	39.0%	44.2%
2005/06	48.3%	34.4%	38.9%	44.5%	48.1%	49.5%	29.5%	44.2%	38.4%	42.9%

2006/07	48.7%	45.3%	35.6%	43.6%	48.3%	48.6%	37.4%	43.8%	38.0%	43.2%
2007/08	48.5%	43.6%	37.0%	42.9%	48.1%	48.6%	37.1%	41.8%	38.2%	43.1%
2008/09	48.2%	42.9%	37.6%	41.2%	48.1%	48.8%	38.0%	40.9%	38.0%	42.8%

Note: Provincial Budget Statements appear to have reconciled percentage shares prior to 2006/07 with the present situation where social development grants are no longer a provincial expenditure responsibility. Free State's for the 2002/03 to 2005/06 period is the only exception to this practice.
Source: Wildeman R, (2006). (Based on Provincial budget statements 2006)

How can we account for these expenditure patterns? It appears that certain sectors have been prioritized over others at national level as reflected in dramatic budget increases. From Figure 5 it is clear that while the proportion of the provincial budgets allocated to social development has gone up dramatically from around 20 percent in 2001/02 to 28 percent in 2007/08, the share of provincial spending on education has declined significantly from 38 percent to just over 32 percent.[1] In addition, provinces have also made decisions that may have had an adverse effect on education budgets. From an aggregate national picture during the past decade, education funding has remained relatively static, possibly even declined a little both in real terms and as a proportion of the overall funds available to provinces. In contrast, funding for other programmes, particularly funding for social development, has grown both in real terms and as a percentage of provincial spending.

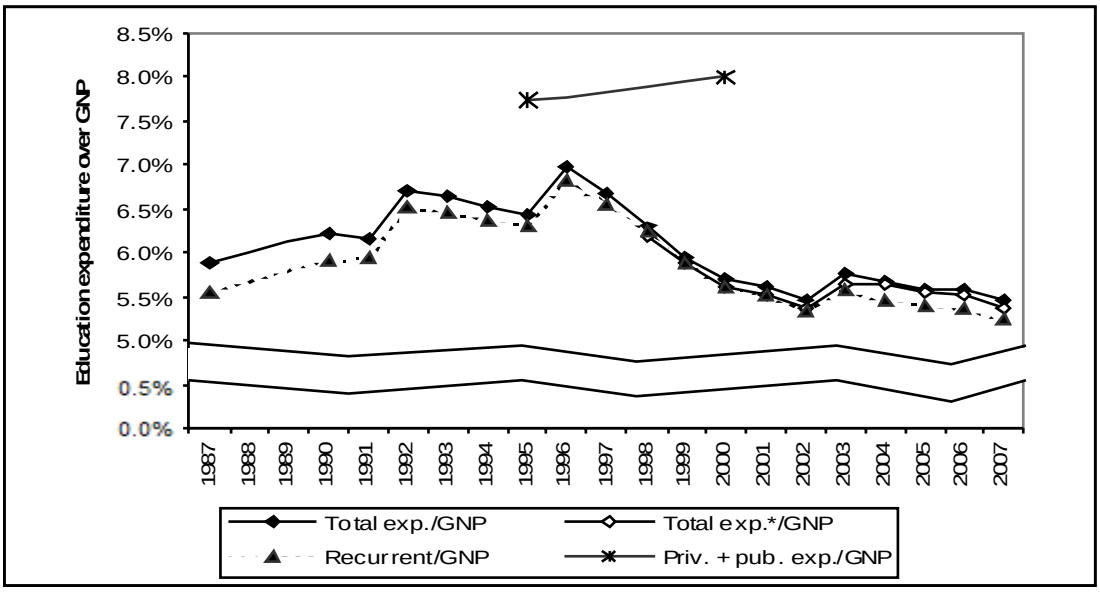
Figure 5: Percentage of provincial budget on education and social development, 2001/2002-2007/08



Note: 2006/07 and 2007/08 are based on Medium Term Expenditure Framework (MTEF) projections.
Source: Department of Education. Directorate: Budget Monitoring and Support, (2005) Provincial expenditure on education: comparison of new MTEF against previous MTEF. Pretoria: DoE

[1] In general, the education budget as a percentage of the overall budget is typically reported at national levels, with proportions ranging from 25 percent in 1993 to the current levels around 21 percent. But as the education budgets are primarily located in provinces, we have chosen to present the picture as an aggregate of provincial spending.

Figure 6: Public education expenditure over GNP, 1987-2007



Note: 'Total exp.' means government expenditure excluding debt repayments
Source: National Treasury, (1998-2005). Budget Reviews. Pretoria: The Treasury. (for national plus provincial government expenditure); Reserve Bank, (1999-2005). Quarterly Bulletins. Pretoria: The Bank (for general government expenditure). Department of Education, (2007). Figure contained in presentation to Select Committees of Finance, Social Services, Education and Recreation, 17 October 2007

Figure 6 above provides a longer term perspective on education expenditure in South Africa. Save for a brief increase between 1995-1996 and again from 2002-2003, public education expenditure as a proportion of gross national product has been on a downward trajectory, with spending patterns on education at about the same level now as 1987. The pattern is consistent for total expenditure with or without debt repayments and for recurrent expenditure. Too little is known about combined private[2] and public expenditure to draw conclusions, but the limited evidence does show that private expenditure may be growing strongly.

2.2.2 Education Expenditure by Programme

The pattern of provincial expenditure on education by programme shows consistency over the past decade. Public ordinary schooling has consistently consumed the largest share of the budget for all years even as the budget allocation has grown. Of the other smaller programmes, some have grown considerably more than others. Whilst the allocation for independent schools for all provinces increased from R261 million to R458 million in the eleven years, specialised education funding has more than doubled, and

[2] While not stated in the presentation from which this figure is drawn, we assume that private expenditure is largely composed of various fees and other private contributions made to education at all levels of the system.

funding for further education and training has grown by a factor of four, reflecting the impact on provincial budgets of the FET recapitalisation and recurricularisation processes. Whilst the adult education and training budget has increased by a factor of five, it remains relatively modest as it was off a very low base in 1996/97.

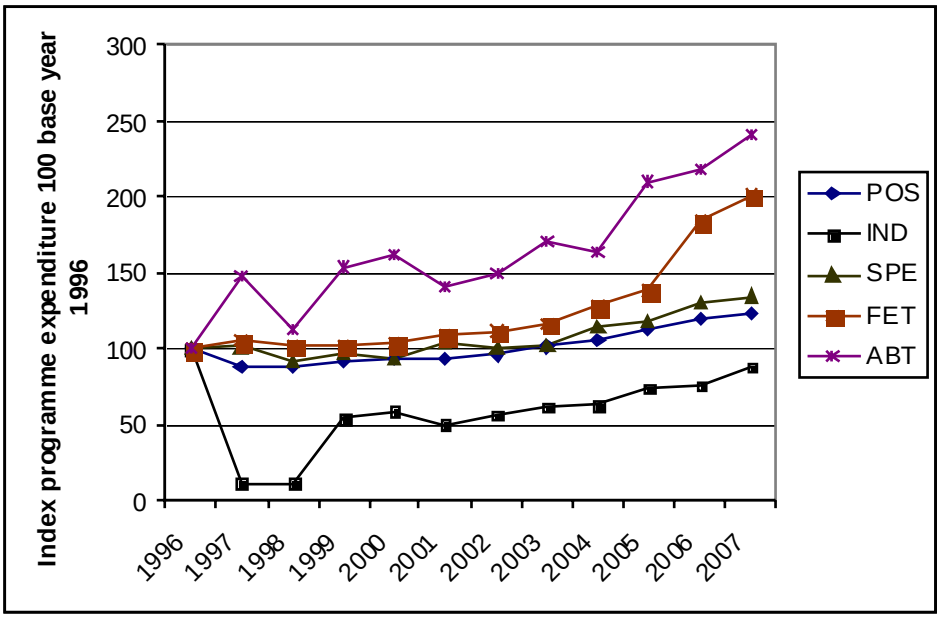
Figure 7: Provincial expenditure on education by programme, 1996/1997-2007/08 (R millions)

Programmes	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Administration	3023	5886	4373	2644	2470	3225	3894	4426	4457	5057	5279	6145
Public ordinary schooling	29788	28716	30624	33653	36973	39552	44576	50094	54474	60709	67229	73518
Independent schooling	261	31	34	176	206	187	228	266	286	347	375	458
Specialised schooling	910	1002	965	1116	1134	1356	1418	1566	1803	1945	2271	2462
Further education and training	591	673	703	754	827	920	1028	1159	1320	1476	2074	2387
Adult education and training	188	303	249	362	410	379	442	537	536	716	779	908
Auxiliary services	572	584	516	657	619	783	826	1297	1306	1658	1740	1858
Other	1182	1134	970	266	402	258	28	0	41	11	8	0
Total	36514	38330	38434	39828	43248	46924	52748	59722	64674	72368	80442	88719

Note: The authors have some concerns about the accuracy of the budget allocation figures for independent schools for the 1997/8 and 1998/9 years. ECD as an separate programme was only introduced in 1999 in some provinces and even later in all provinces.
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

The spending trends are clear in Figure 8. Whilst public ordinary spending has grown by 23% in real terms in the period from 1996/7 to 2007/8, there has been a dramatic expansion of expenditure on FET, ABET and ECD.

Figure 8: Index education programme framework: real spending (1996/7 rands) 1996/7-2007/08



Note: Index based on real expenditure for 1996/7 year. The authors have some concerns about the accuracy of the budget allocation figures for independent schools for the 1997/8 and 1998/9 years
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

Another way of viewing the changing budget priority is to compare the relative proportion of the budget allocated to programmes. Figure 9 shows that public ordinary school expenditure has grown by more than two percent, a small change relative to the portion consumed by this programme. As is evident from the Figure, FET, ABET and ECD have made the most advances off low bases.

Figure 9: Proportion of total education budget by programme, 1996/7-2006/2007

Programme	1996-1997	2006-2007
Administration	8.3%	6.6%
Public ordinary schooling	81.6%	83.6%
Independent schooling	0.7%	0.5%
Specialised schooling	2.5%	2.8%
Further education and training	1.6%	2.6%
Adult education and training	0.5%	1.0%
Early childhood development		0.9%
Auxiliary services	1.6%	2.2%
Other	3.2%	0.0%
Total	100.0%	100.0%

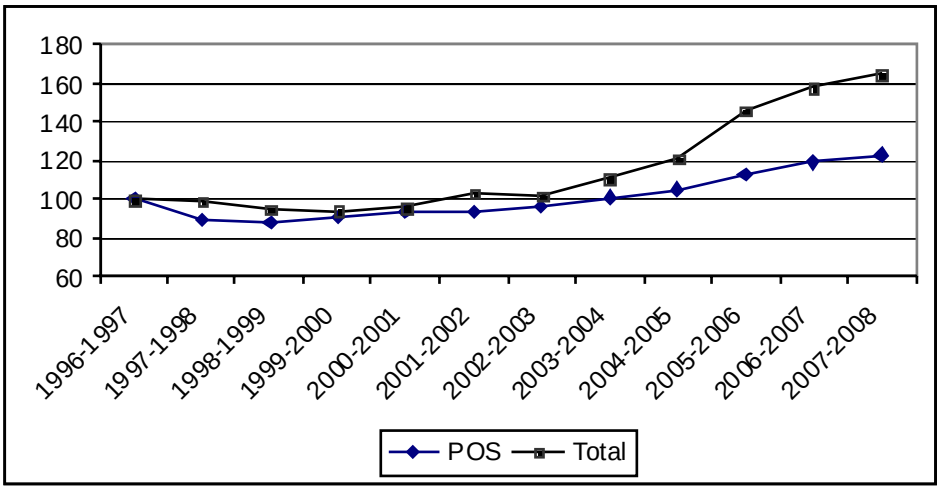
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

Whilst the total allocation to education has increased in real terms by 23% in the period, Figure 9 does show that the increases in certain programmes reflect not only growth in spending overall, but reprioritisation. In the ten year period, there has been a decline in expenditure on administration and other programmes, as well as a small decline in the proportion of the budget allocated to independent schools. Public ordinary schools, special schools, but particularly further education and training and adult basic education and training, have received increased slices of the pie, even if in the latter cases, the slices remain modest.

2.2.3 Public Ordinary Schooling

Spending on public ordinary school has grown over twenty percent in real terms between 1996/7 and 2006/7. However, between 1996 and 2003, the value of the allocation actually declined, and only began to recover after 2003/4. Whilst total government allocation declined in the late 1990s, it recovered sooner than the education allocation and after 2003, increases were proportionally much higher, as shown in Figure 10.

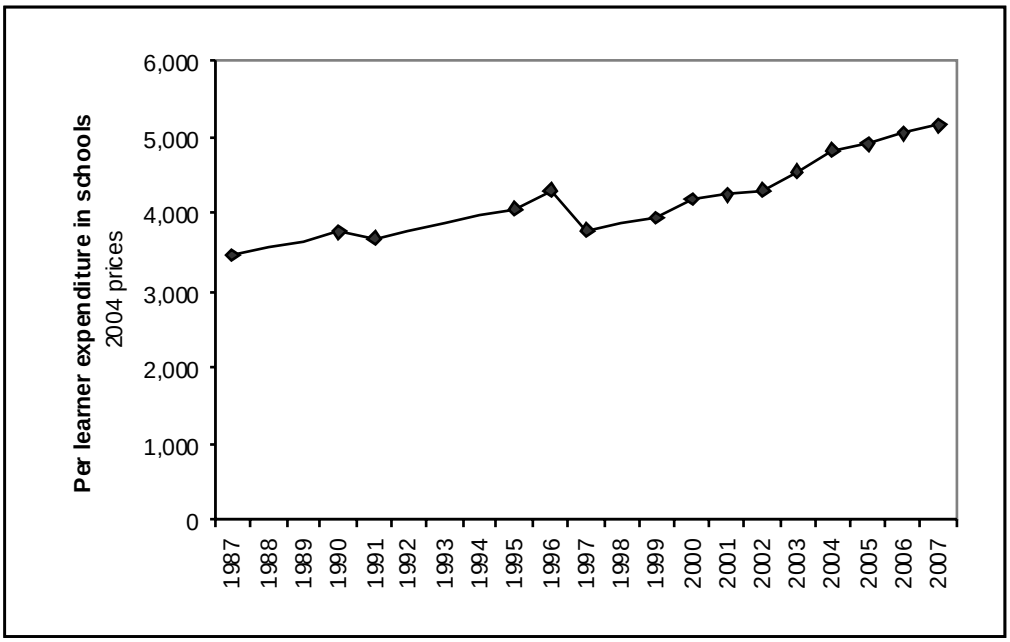
Figure 10: Index expenditure on public ordinary school and total government allocation, base year 1996/7 (Indexed at 100)



Note: Total government allocation excludes debt repayment and contingency reserve allocation. Index with 1996/97 base.
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

Figure 11 shows that per capita there has been a gradual and uneven increase over the longer term. In real terms, spending on the average public ordinary school learner was 30% higher in 2007 than it was in 1994.

Figure 11: Per capita expenditure on public ordinary schooling, 1997-2007



Source: Department of Education, (2007). Figure presented in presentation to Select Committees of Finance, Social Services, Education and Recreation, 17 October 2007

The pattern of spending by provinces is uneven, but largely tracks the national picture.

Figure 12: Index of provincial public ordinary school expenditure (1997 base year), 1997/8-2007/08

Province	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Eastern Cape	1	1.3	1.7	1.7	1.7	1.8	1.8	1.9	1.9	2.1	2.2
Free State	1	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.1
Gauteng	1	1.0	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.3
KwazuluNatal	1	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.4
Limpopo	1	1.1	1.1	1.2	1.1	1.2	1.2	1.4	1.4	1.5	1.5
Mpumalanga	1	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.3	1.3	1.6
Northern Cape	1	1.0	1.0	1.0	1.0	0.9	0.9	1.0	1.1	1.1	1.4
North West	1	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.2	0.9
Western Cape	1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.1	1.1

Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

As Figure 12 above shows, the aggregate provincial expenditure pattern over the last decade obscures considerable variability between provinces. Spending on public ordinary school more than doubles in the Eastern Cape, and actually declines in real terms in the North West. In two provinces with fast growing learner populations, the real growth in public ordinary school expenditure over the ten year period is most, with Gauteng recording 30% growth, and the Western Cape 10%. There is clearly a tension between greater interprovincial equity in terms of spending, and increases in spending to keep pace with changing patterns of school enrolment.

2.2.4 Early Childhood Education

The pattern of expenditure on early childhood education is one of dramatic expansion off a very low base. Figure 13 shows that in the first year that substantial and consistent budget information is available, only the North West had a substantial allocation devoted to ECD. The Eastern Cape had allocated little more than R4 million to this programme. By 2007/8, every province had allocated substantial funds to this programme, with Kwazulu Natal committing R167,7 million to the provision of early childhood education.

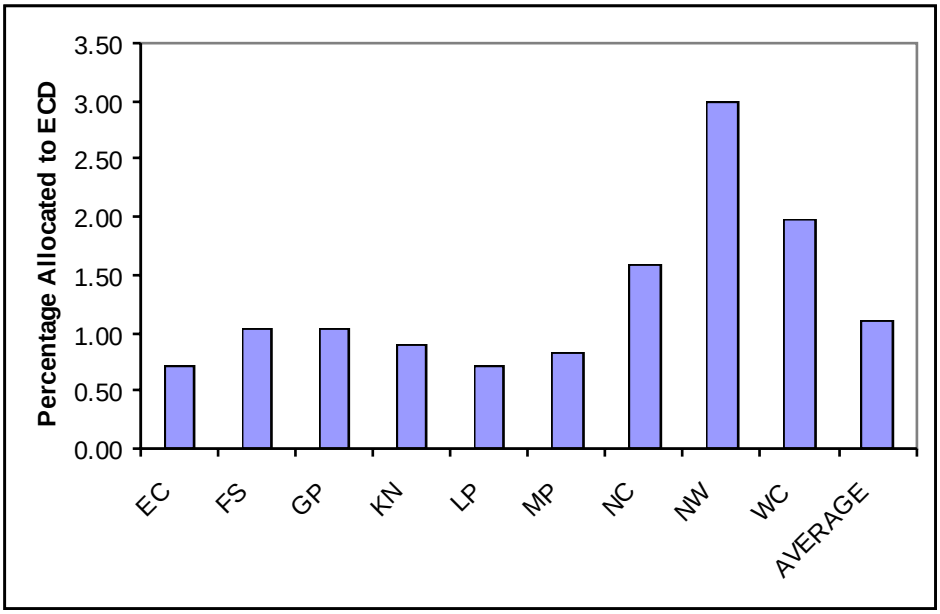
Figure 13: Provincial early childhood development 1999/00-2007/08, (R 000)

Province	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Eastern Cape	4,366	6,461	3,473	24,402	27,305	36,937	38,823	64,346	105,753
Free State	9,268	1,603	9,958	13,766	16,290	29,509	32,054	49,637	58,038
Gauteng				5,455	88,178	51,807	49,000	79,000	152,739
KwazuluNatal	27,091	22,337	42,374	52,801	22,588	79,697	61,760	96,757	167,697
Limpopo				12,193	12,809	23,535	22,031	77,715	83,935
Mpumalanga	26,580	30,927	24,639	27,857	35,075	33,072	41,867	41,827	67,297
Northern Cape	6,518	5,727	8,499	10,632	11,371	13,198	13,909	18,019	35,772
North West	98,014	92,507	128,130	107,033	107,259	122,567	113,689	151,510	159,127

Western Cape	27,390	48,170	46,261	52,838	56,310	60,135	74,477	107,397	153,039
	199,227	207,732	263,334	306,977	377,185	450,457	447,610	686,208	983,397

Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

Figure 14: Percentage of provincial education budget allocated to ECD, 2007



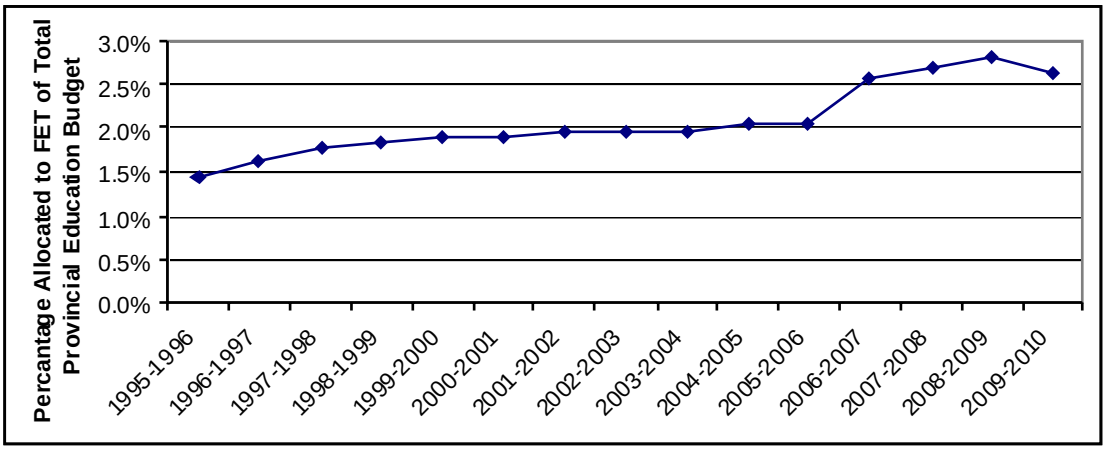
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007).

Notwithstanding the huge gains make in expenditure on ECD, the pattern of spending remains uneven. A number of provinces have prioritised spending in this programme, particularly the North West and the Western Cape. Other provinces, particularly the Eastern Cape and Limpopo are lagging behind.

2.2.5 Further Education and Training

With the reorganisation of the FET College sector which commenced in 1995, funding for FET institutions has grown steadily, with a particularly sharp increase from 2006/07 as the Treasury provided special allocations for the recapitalisation of the colleges, the development of new curricula and the training of lecturing staff. According to the DoE's Sector Plan for FET (DoE, 2007b) the international norm for funding FET is in the region of 8-12% of total expenditure, which compares very favourably to the figure of around 3% of provincial budgets in SA, which is where the bulk of FET spending occurs. As noted in Figure 7, provincial expenditure in the Further Education and Training Programme has increased from R591 million in 1996/7 to R2,387 million in 2007/8.

Figure 15: Percentage of provincial budget allocated to FET, 1995-2010



Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

2.2.6 Higher Education

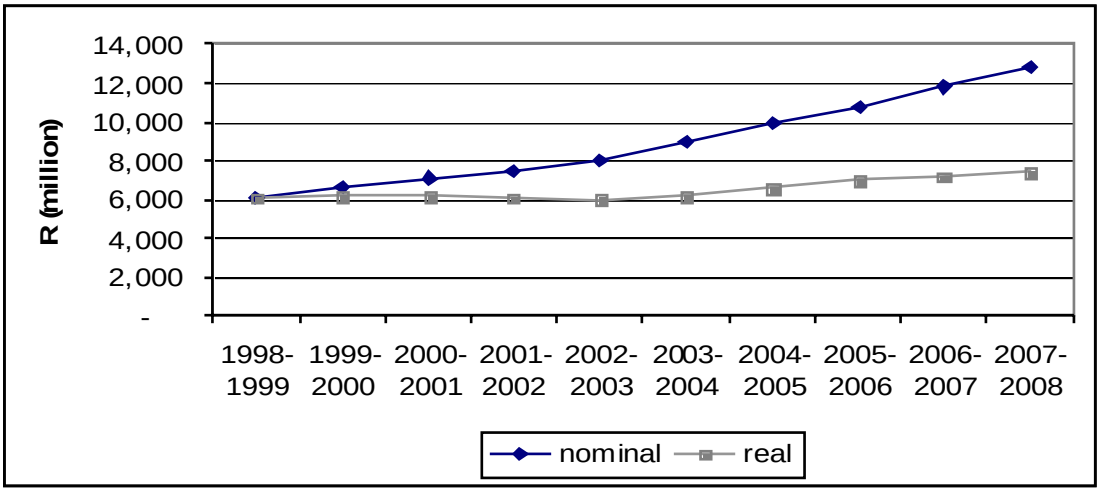
In this section we consider the patterns and trends in public higher education budgets and expenditure. HE budget as a component of the national Vote 15 increased from R6,05 million in 1998/99 to R12,8 billion in 2007/08. Wildeman (2007) notes that funds for the restructuring of Higher Education were allocated in 2003/04 and beyond. Figure 17 shows that this was the turning point in funding, the point at which funding in the sub-sector gradually and steadily increased

Figure 16: Figure: Expenditure on Vote 15 (HEI), 1998/99-2007/08

Vote 15	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Nom	6,055	6,620	7,085	7,543	8,043	8,953	9,911	10,807	11,807	12,822
Real	6,055	6,193	6,154	6,146	5,996	6,249	6,633	6,954	7,229	7,448

Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

Figure 17: Nominal and real higher education expenditure



Note. Real expenditure off 1998/99 as the base year
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

In the period prior to 2003, higher education funding was dominated by the process of fundamental transformation. Moving away from the old funding framework, the new funding formula after 2003 began to take into account the costs of mergers and new expenditure on IT systems, library systems, communications, and infrastructure.

Figure 18: Indexed total government allocation (1998) and higher education (1998)

Total	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Total	100	99	101	109	108	117	128	155	167	175
HE	100	102	102	102	99	103	110	115	119	123

Note: Total Government allocation excludes debt repayment and contingency reserve allocation. Index to 1998/99 base.
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007)

Notwithstanding a clear upward trend in public Higher Education, the growth in the budget allocations is considerably slower than the growth of total government expenditure in the same period. Factoring in the increased enrolment, we note that real per capita expenditure on Higher Education rose in 1999/00, but declined in 2001/2 and by 2006/7, it was still below the per capita allocation in 1998/9.

Figure 19: Higher Education Expenditure and Enrolment, 1998/9-2006/7

	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007
Real HE Budget (R000)	6,055,000	6,192,703	6,153,822	6,146,293	5,996,158	6,248,928	6,632,974	6,953,974	7,228,856
Enroll	601936	553800	578134	627277	667182	705255	744479	735073	741380
Per capita	R 10,059	R 11,182	R 10,644	R 9,798	R 8,987	R 8,861	R 8,910	R 9,460	R 9,751

Sources: Higher Education statistics (R000) from Department of Finance, (2007) Budget Statistics Database; Enrolment 1999 to 2006 from Department of Education . Higher Education Management Information System(HEMIS) Data base; 1994 Edusource Data News, no 12/April 1996: 19; 1995 data from EduSource Data News, no14/September 1996; 1996 data from EduSource Data News, no16/June 1997; 1997 data from EduSource Data News, no18/October 1997: 8-9

These figures show that as numbers began to increase in 2000, real spending was on a decline, and only began to increase 4 years into the period of rapid student growth. We will return to this point in section 3.4 below.

2.2.7 Public Expenditure by economic classification

In terms of trends in spending on economic categories, continuity is the key characteristic of the patterns over time. As shown in Figure 20, personnel expenditure continues to dominate, despite effort to reduce it to 80% of the budget. Major policy developments such as the uptake of Section 21 schools may account for the increase of transfer payments and decline in other recurrent expenditure.

Figure 20: Proportion of provincial education expenditure by economic category

Exp type B	1995-1996	2005-2006
Personnel expenditure	86.9%	84.3%
Transfer payment (current)	1.9%	3.1%
Other (current)	9.0%	8.4%
Transfer payment (capital)	1.0%	
Other (capital)	1.3%	4.1%
Total	100.0%	100.0%

Note that there is no breakdown by provincial programme in this variable. These are thus the aggregate figures published for Provincial Education Departments, according to 'type', or economic classification.
Source: Department of Finance, (2007) Budget statistics database. (provided by the Department of Education, November 2007

2.3 Equalisation

At a conceptual level, Fiske and Ladd's three concepts – equal treatment, equal educational opportunity and educational adequacy – are an important contribution to understanding equity in South African schooling (Fiske and Ladd, 2004). Equal treatment, the most basic form of equity, assumes that no person should be treated differently by the state on the basis of any personal characteristic, such as race. Equal

educational opportunity broadens the notion of equity to include not only that the state has an obligation to provide equal funding (i.e. the same level for all) but has a further obligation to ensure that all children have a fair opportunity to obtain a certain level of achievement. The implication is that equal funding, rather than shared on the principle of sameness, would be distributed in a manner that would allow for higher levels of spending on those children in greatest need. In other words, the concept of equal opportunity is the philosophical basis for the 'redress' funding policies. Finally, the concept of adequacy does not focus on the relative distribution of funding, but rather asks questions about the minimum level of funding required to ensure acceptable levels of achievement. For the purposes of this section, we will concentrate on the first of the concepts.

2.3.1 Interprovincial Equalisation

One of the most striking achievements in South African education has been the equalisation of interprovincial per capita spending.

Figure 21: Public per capita expenditure on public ordinary school education in real terms (based on 2000 prices)

Province	2000	2001	2002	2003	2004
EC	3,019	3,318	3,300	3,451	3,539
FS	3,531	3,644	3,684	4,050	4,176
GP	3,986	3,592	3,798	3,976	3,916
KN	2,820	2,930	2,986	3,191	3,453
LP	2,980	3,073	3,092	3,260	3,490
MP	3,030	3,042	3,296	3,582	3,614
NW	3,594	3,609	3,621	3,886	3,951
NC	4,403	4,334	4,185	4,184	4,196
WC	3,800	3,906	3,881	4,000	4,052
AVERAGE	3,250	3,310	3,368	3,565	3,688

Source: Department of Education, (2007) *Draft Macro-Indicator Report*. Pretoria: DoE.

According to Patel and Crouch (forthcoming), the fiscal policies that required "equitable shares" combined with unification of teacher salaries which occurred in the early 1990s, led to improvements in equity between provinces. Figures 21 and 22 show how funding per province converged towards the national average. In Figure 22 the provincial mean is indexed at a value of 1.0, the number shown for each province is the ratio of that province's per student spending to the average of all provinces. Between 2000 and 2004, the standard deviation, i.e. an indicator of the spread of expenditure around the mean, is reduced from 0.16 to 0.8. While considerable movement towards interprovincial equity occurred in the mid 1990s, the process continued in the first decade of the new millennium.

Figure 22: Indexed public per capita real expenditure on public ordinary education (based on 2000 prices)

Province	2000	2001	2002	2003	2004
EC	0.93	1.00	0.98	0.97	0.96
FS	1.09	1.10	1.09	1.14	1.13
GP	1.23	1.09	1.13	1.12	1.06
KN	0.87	0.89	0.89	0.90	0.94
LP	0.92	0.93	0.92	0.91	0.95
MP	0.93	0.92	0.98	1.00	0.98
NW	1.11	1.09	1.08	1.09	1.07
NC	1.35	1.31	1.24	1.17	1.14
WC	1.17	1.18	1.15	1.12	1.10
Average	1.00	1.00	1.00	1.00	1.00
Standard Deviation	0.16	0.13	0.11	0.10	0.08

Source: Department of Education, (2007) *Draft Macro-Indicator Report*. Pretoria: DoE.

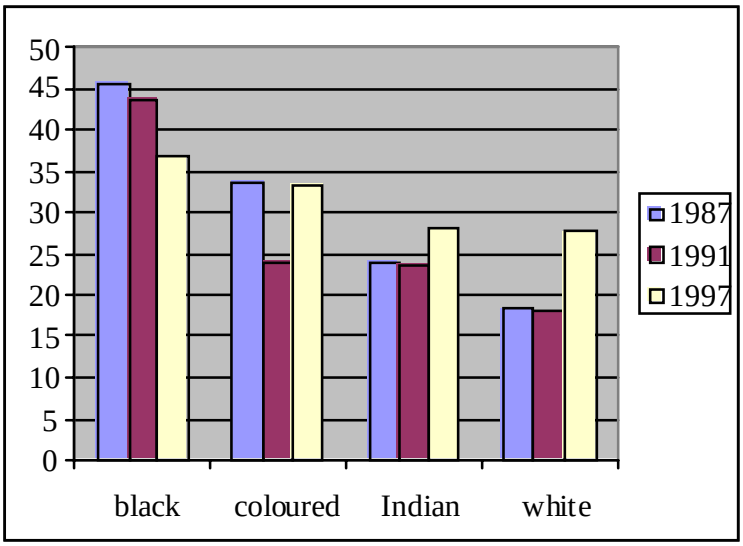
Whilst funding for education increased between 2000 and 2004, the real achievement in the period was the gradual equalisation of per capita expenditure. In 2000, Kwazulu Natal was spending 87% of the average expenditure per child compared to the Northern Cape that was spending 135% of the average. By 2004, the lowest provinces were only six percent below the average, the highest 14%.

2.3.2 Equalisation of Learner-Educator Ratios

The equalisation of education expenditure was largely driven by the success of a new post establishment model. Figure 23 below provides a clear indication of the rapid and substantial achievement in reducing the learner educator disparities of the past. Whilst complete parity between schools in the former departments had not been achieved by 1997, the higher ratios in former DET schools had come down dramatically, and the very low ratios in former white schools had gone up.

If the pace towards equal treatment was slow initially, it picked up in the late 1990s. By 2007, the national average learner educator ratio was 34.5 for public schools including only state-paid educators, and 32.3 for public schools including both state and SGB paid teachers. While ratios by race (or proxies like ex-department) have not been published in recent years, the learner-educator ratio gap between the lowest and highest provinces is now relatively small at 29.1 for the Free State and 33.2 for Mpumalanga (Department of Education, 2007c).

Figure 23: Primary school learner–teacher ratio, 1987–1997



Source: Van der Berg, S (2001)

2.3.3 Public and private expenditure per child

In an important study of the actual per school expenditure, using a bottom-up or micro-perspective, Shireen Motala has shown that equal treatment, in terms of unit expenditure, had largely been achieved by 2002 in some provinces (Motala, 2006). But because teachers in former white schools tended to have higher qualifications and more years of experience, the actual per learner expenditure on learners in former black and white schools continued to be unequal.

Figure 24: Per learner expenditure in Gauteng (public), 1999–2002

	1999	2002
Department of Education and Training	R2 535	R2 791
House of Assembly	R3 285	R3 074
House of Delegates	R2 660	R2 628
House of Representatives	R2 548	R2 548

Source: Motala, S (2006).

The school funding norms were designed to move beyond equal allocation per child – what Fiske and Ladd have called 'equal treatment' – through the application of the redress model to allocate funds for all non-personnel-related expenditure. Figure 25 shows that whilst there continues to be considerable variability between provinces in how the formula is actually operationalised, children in quintile one schools (that is, the poorest schools) have been allocated seven rand for every one rand allocated to children in the best-off schools. Had the overall proportion of the budget allocated for non-salary

expenditure been substantially larger, the school funding norms would certainly be a major step in the direction of equal educational opportunity.

Figure 25: Per learner expenditure (in rands) on school funding norms, 2001

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
EC	R 223	R 159	R 127	R 96	R 32
FS	R 241	R 163	R 131	R 100	R 44
GT	R 364	R 258	R 207	R 156	R 52
KZN	R 216	R 168	R 120	R 90	R 54
MP	R 51	R 32	R 25	R 22	R 8
NC	R 430	R 371	R 300	R 230	R 170
NW	R 176	R 154	R 143	R 107	R 11
WC	R 193	R 179	R 158	R 133	R 65

Had South African education confined educational expenditure to that which the state provides, the concept of equal treatment would have applied. However, given the provisions in law to permit or, more precisely, to encourage, parents to levy school fees on the school community, the net overall impact is the continuation of older patterns of financial inequality, albeit that the advantaged schools now serve both the black and white middle class. When school fees are included in the per-child costing, the *de facto* level of expenditure per child in the wealthiest 20 per cent of schools is significantly higher than per-child expenditure in the remaining 80 per cent. This pattern of funding differentiation bears a striking resemblance to the bimodal distribution of achievement (Fleisch, 2008). Privileged schools – those with high per capita expenditure resulting from high fees – use the extra revenue to hire additional teachers, pay subventions to teachers in government posts and purchase a range of learning resources that fundamentally add to the effectiveness of teaching and learning.

Figure 26: Average per-learner expenditure (in rands) in Gauteng, 1999–2002

		1999	2002
DET	Private (fees)	56	251
	State	2 790	3 074
	Total	2 845	3 325
HOA	Private (fees)	1 348	1 892
	State	3 362	3 162
	Total	4 709	5 055

Source: Motala, S (2006).

Motala has shown that the effect of school fees is to substantially skew actual per learner expenditure. While state equalisation had been largely achieved by 2002, children attending former Department of Education and Training schools had 65c spent on them for every one rand spent on children in former Transvaal Education Department schools. The combined effect of the school funding norms and the school fee policies is to reproduce existing patterns of inequality, with children who attend historically privileged schools *de facto* having substantially more resources devoted to their educational experience. When the existing physical infrastructure and equipment is added to the annual difference between advantaged and disadvantaged per learner expenditure, the full magnitude of the inequality is striking.

2.4 How effective are we in using the education budget?

In 2005, total public expenditure on education as a percentage of GDP was 5.35%. While there are no international benchmarks, most countries with advanced education systems typically spend between 5% and 6% of gross national product (GNP) on education (UNESCO, 2006:76). South Africa is in line with this level of expenditure, spending 5.59% of its GNP on education in 2005.

Figure 27: Comparative education expenditure as a percentage of GDP, 2004

Country	Total public expenditure on education as a % of GDP
Chile	**4.1**
Mauritius	**4.7**
South Africa	**5.4**
Thailand	**4.2**
Turkey	**3.6**

Source: UNESCO Institute for Statistics at http://www.uis.unesco.org/ev.php?ID=6827_201&ID2=DO_TOPIC) (Accessed 30 May 2007)

2.5 Conclusion

One of the most striking features in the fifteen year review of the finance of the education and training sector was that during the first critical period in post-apartheid education, public expenditure declined, only recovering in 2003/2004. This pattern is most clearly evident in expenditure on public ordinary schooling and in the higher education sector.

Notwithstanding this major negative trend, the initial period of the transition (1995-2003) was also characterised by dramatic strides in the equalisation of education expenditure. While judgments about the achievements towards equal treatment need to be tempered in light of the increasingly central role that private expenditure had begun to play, these achievements need to be celebrated.

The other major trend in education finance has been the emergence of Early Childhood Development, Adult Education and particularly Further Education and Training from the shadows. Aggressive fiscal expansionary policies have meant that these subsectors have been able to grow rapidly, particularly in the past four years. That said, the proportion of funds allocated to them remains small.

CHAPTER 3: Access to Education

3.1 Introduction

A commitment to the right of access to education has been part of South Africa's education system only since 1994, with the transition to democracy. This commitment has been enshrined in the Constitution of South Africa (RSA 1996a) which states that:

> Everyone has the right:
> (1) to basic education, including adult basic education; and
> (2) to further education, which the state, through reasonable measures, must make progressively available and accessible.

Since 1994 education policies have focused on redressing the inequalities of the past by, inter alia, making education accessible. The South African Schools Act (RSA 1996b), which promotes access, quality and democratic governance in the schooling system has made schooling compulsory for all children aged between seven and 15 years of age. For pre-school children, the Department of Education has committed itself to phasing in a reception year (Grade R) so that by 2010 all learners entering Grade 1 will have participated in an accredited reception year. While Grade R will not be compulsory, the Department of Education's policy is to make it universally accessible to all 5 year olds (DoE, 2001 and 2005b:7).

Further education and training is not compulsory, but the state is constitutionally obliged to make it progressively available and accessible. This is done either in the senior secondary component of schooling or in further education and training (FET) colleges, which provide skills training to post-compulsory school leavers and adults (DoE, 2007). The vision for transforming the FET college sector was laid out in the Further Education and Training Act of 1998 and the Department of Education's New Institutional Landscape Document which put forward proposals for 50 new FET colleges and for improving the quality and responsiveness of this sector (Akoojee et al, 2008:254).

Targets for the size and shape of the higher education system are provided for in the National Plan for Higher Education (NPHE) which provides the implementation framework for transforming the higher education system. The NPHE also includes the overall growth and participation rates, institutional and programme mixes and equity and efficiency goals for higher education (Ministry of Education, 2001).

To meet the challenges of adult illiteracy, various policies and programmes have been introduced. In 2000, the Adult Basic Education and Training Act was passed, which provides the basis of adult education and training provision. In 1999 the Department of Education launched the South African National Literacy Initiative which ran until 2003 and in 2008 it will launch Kha Ri Gudi, a R6.1 billion adult literacy campaign (Ministry of Education, 2007).

This section looks at trends in terms of access to educational institutions since 1994 until the present.

3.2 Preschool

Education for the birth-to-5 component of the population is delivered by formal Grade R classes, and Early Childhood Development programmes. Grade R is a class which is part of the primary school and precedes Grade 1, while ECD programmes are informal, not regulated by government, and vary widely in the ages at which they accept children, the kinds of activities undertaken, and fees charged. The DoE has announced that it aims to expand Grade R, aiming for targets of 40% provision in 2007 and 60% in 2008. The PIRLS study (Howie et al, 2007) reports that 86% of children attend some form of preschool, although details are not specified.

3.3 Schooling

Figure 28 shows the primary (Grades 1 to 7) and secondary (Grades 8 to 12) school enrolment in 1991, 1995, 1999 and 2005 while Figure 29 shows enrolment in these years in the basic or compulsory band (Grades 1 to 9) and further education and training band (Grades 10 to 12). Both tables also show the total growth and average annual growth between the years depicted.

Access to education has grown substantially since the early 1990s with school enrolment increasing by 16.6% between 1991 and 2005. Most of this growth has been due to the rapid expansion of secondary education, which increased by 53.4% over this period. The further education and training band (Grades 10, 11 and 12) alone, grew by almost 70%, an average annual increase of 3.1%.

The biggest period of growth in learner enrolment occurred between 1991 and 1995, with the build-up to, and implementation of democratic governance in South Africa. During these years, primary education enrolment increased by just over 14% and secondary enrolment by almost 30%. Having reached a peak in the mid-1990s, the rate of increase slowed down. Primary education recorded a negative growth after 1995, decreasing by an average of 0.6% a year between 1995 and 1999 and then by 1.3% a year after 1999. By 2005, there were only 1.8% more learners enrolled in primary school than there had been in 1991.

Enrolment in secondary education continued to grow after 1995, albeit not at the same pace that had occurred up to that date. In the further education and training band, learner enrolment increased by a massive 33% between 1991 and 1995, an average annual increase of 7.4%. After 1995 the rate of increase slowed down to an average of 2.9% a year up until 1999, and then to 2.2% a year between 1999 and 2005.

The slow-down in enrolment was possibly due to several factors: a decline in fertility rates since the late 1970s (Simkins, 2002: 1); primary enrolment reaching a natural saturation point (Perry & Arends, 2004:304); the stabilisation of school enrolment after a massive influx of previously excluded learners during the period of transition to

democracy in the early and mid-1990s (Shindler, 2005:41); and the implementation in 2000 of a policy to reduce under-age enrolment in Grade 1 and high repetition throughout the public school system (DOE 1998a and 1998b).

Figure 28: Primary (Grades 1 to 7) and secondary (Grades 8 to 12) school enrolment in 1991, 1995, 1999 and 2005

Number of learners and growth rates in primary and secondary education in 1991, 1995, 1999 and 2005

	Numbers			% change over previous period			Average annual increase		
	Primary	Secondary	Total	Primary	Secondary	Total	Primary	Secondary	Total
1991	7215507	2888202	10103709						
1995	8159435	3749448	11908883	13.1%	29.8%	17.9%	3.1%	6.7%	4.2%
1999	7965754	4111177	12076931	-2.4%	9.6%	1.4%	-0.6%	2.3%	0.4%
2005	7346912	4430708	11777620	-7.8%	7.8%	-2.5%	-1.3%	1.3%	-0.4%
Change 1991/2005				1.8%	53.4%	16.6%	0.1%	3.1%	1.1%

Note: Learners enrolled in other or special education institutions have been included in primary.
Source: 1991 EduSource Data News, (1996) no.6/June 1996 pp 7-10; 1995 data Bot, M and Shindler, J., (1997: 19-20); 2001 data DoE, (2003). Education Statistics in South Africa at a Glance 2001, June 2003; 2005 data DoE, (2006). Education Statistics in South Africa at a Glance 2005, November 2006

Figure 29: Number of learners and growth rates in basic and further education in 1991, 1995, 1999 and 2005

	Numbers			% change over previous period			Average annual increase		
	Basic	Further	Total	Basic	Further	Total	Basic	Further	Total
1991	8661398	1442311	10103709						
1995	9987104	1921779	11908883	15.3%	33.2%	17.9%	3.6%	7.4%	4.2%
1999	9926060	2150871	12076931	-0.6%	11.9%	1.4%	-0.2%	2.9%	0.4%
2005	9330208	2447412	11777620	-6.0%	13.8%	-2.5%	-1.0%	2.2%	-0.4%
Change 1991/2005				7.7%	69.7%	16.6%	0.5%	3.8%	1.1%

Note: Learners enrolled in other or special education institutions have been included in basic.
Source: 1991 data EduSource Data News, (1996). no.6/June 1996 pp 7-10; 1995 data Bot, M and Shindler, J., (1997: 19; 2001 data DoE, (2003). Education Statistics in South Africa at a Glance 2001, June 2003; 2005 data DoE, (2006). Education Statistics in South Africa at a Glance 2005, November 2006

This high rate of learner enrolment has ensured that despite poverty and the impact of HIV/AIDS, access to education in South Africa, particularly in primary education, is extensive. In 2005 the gross enrolment ratio[3] (GER) in primary schools was 103% (see Figure 30). A GER of over 100% is usually due to the inclusion of over-age and under-age learners in the system, either as a result of early or late entrance into the education system or as a result of repetition (UNESCO, 2004). While the primary school GER was much higher in earlier years (125% in 1997), this was not the most efficient access owing to the large number of underage learners entering Grade 1 and then many repeating this grade until they were old enough to go onto Grade 2. The implementation of the age-grade admission policy in 2000 (DoE, 1998), which stated that learners must turn seven

[3] Gross enrolment ratio (GER) measures enrolment, regardless of age, in a specific level of education as a proportion of the appropriately aged population for the given level of education. For the purpose of this paper, 7 to 13 years is used as the appropriate age for primary school, 7 to 15 years for basic or compulsory schooling, 14 to 18 years for secondary schooling and 16 to 18 years for further education and training.

in the year that they enrol in Grade 1[4], assisted in normalising Grade 1 enrolment, resulting in the GER in Grade 1 dropping from 166% in 1997 (Perry & Arends, 2004:309) to 125% in 2005 (Calculated from DoE 2006:13).

Figure 30 GER by level of education: 1994, 1997, 2002, 2005

	Primary	Secondary	Total
1994	122	84	-
1997	125	90	111
2002	105	81	95
2005	103	89	97

Source: 1994 data Bot and Shindler, (1997: 8); 1997 data Perry and Arends, (2004: 309); 2002 data DoE (2004). Education Statistics in South Africa at a Glance 2002, February 2004:7; 2005 data DoE (2006:7). DoE, (2006). Education Statistics in South Africa at a Glance 2005, November 2006.

As the age-grade regulations also provided for age-grade norms for all the school grades, including secondary school grades, and also aimed to reduce excessive repetition throughout the grades[5], the regulations also had an impact on participation in secondary schools. As can be seen in Figure 30, after reaching a peak in 1997, the GER for secondary schools dropped to 81% in 2002. However, as an increasing number of learners have been entering secondary school and staying on after the compulsory education phase, the GER increased to 89% by 2005.

While the implementation of the age-grade norms have ensured a more efficient education system, various policies and programmes have played a role in ensuring that children get access to education in South Africa. These include the introduction of compulsory education for children aged seven to 15 years old or up to Grade 9 (RSA, 1996b); the National School Nutrition Programme which feeds 5 996 050 learners in 18 039 primary schools throughout the country (DoE, 2007:14); the introduction of a reception year, Grade R, for children turning five, which aims to reach full coverage by 2010; and the introduction of pro-poor finance policies, exemption from school fees and the declaration in 2006 that 40% of schools in the country (the poorest 40%) would be no-fee schools (DoE, 2007:14).

As a result of these measures, participation in the education system is very high. In 2007, more than 90% of children in the compulsory school age were attending an educational institution (see Figure 31). Between the ages of seven and 14 years, just over 95% of children in the population were at school while this applied to 93.4% of 15 year olds. There was an improvement in the participation rate of children in each age cohort between seven to 15 years of age since 2001. The biggest increase was among seven year

[4] The Age Requirements for Admission to an Ordinary Public School (DoE, 1998a), which was implemented in 2000, stated that the statistical norm per grade was the grade number plus 6, making, for example, 7 years the appropriate age for grade 1, 15 years the appropriate age for grade 9 and 18 years the appropriate age for grade 12.

[5] The norm for repetition as laid down in the Admissions Policy for Ordinary Public Schools (DoE, 1998b) is one year per school phase and multiple repetition in one grade is not permissible. A learner is, therefore, allowed to repeat four times between Grade 1 and Grade 12. Repetition has seldom been found "to results in significant increases in learning attainment" (DoE 1998b, 5) and has, in the international literature, in fact been found to result in an substantially increased risk of dropping out (see DoE 2007c).

olds: between 2001 and 2007 the participation rate increased from 88.4% to 94.8%, an increase of just over 6 percentage points. The phasing in of a reception year (Grade R) has seen a huge increase in the participation rate of five and six year olds. The increase in the participation rate of six year olds was also a result of the dropping of the age of entry into primary school to six years old in 2004[6]. In 2007, 80.9% of five year olds were enrolled in an educational institution compared to 45.6% in 2001 and only 22.5% in 1996. Among six year olds, participation improved from 49.1% in 1996 to 70.3% in 2001 and then to 91.4% in 2007.

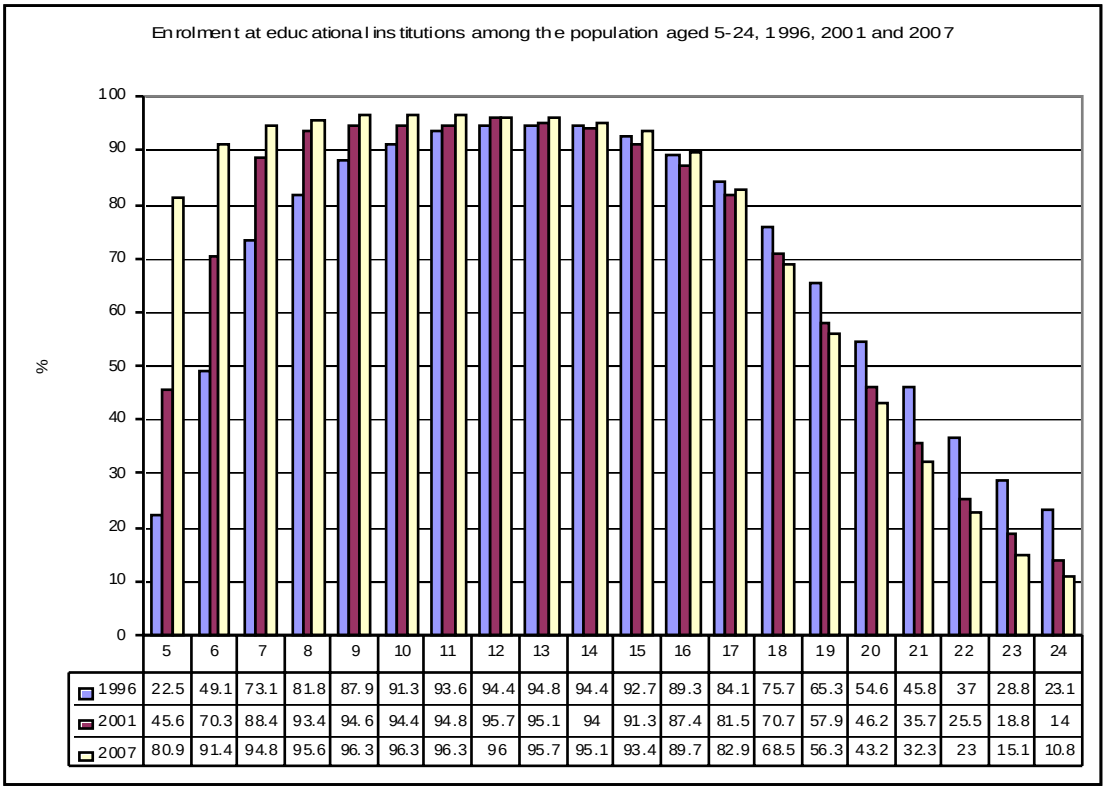
While the participation rate of children who fall into the compulsory school age is very high, there are still large numbers of children of compulsory school age who are not attending schools. For example, it can be deduced from Figure 31 that 5.2% of seven year olds and 4.4% of eight year olds were not enrolled in school despite the fact that they are subject to compulsory education. Even if allowances are made for children starting school late, there were still 3.7% of 10 year olds, 3.7% of 11 year olds and 4% of 12 year olds who were not enrolled in school in 2007. In total, 492 282 children aged seven to 15 years (or 5.4% of all children aged seven to 15 years) were not attending an educational institution in 2007 (Narsee, 2008). While the largest proportion of these children are most likely out of school as a result of a severe disability (DoE 2003: 13), other possible reasons include poverty (Porteus et al, 2000; Fleisch & Woolman, 2004; and Motala et al, 2007: 69), the impact of HIV/AIDS (Coombe 2002:9; Case & Ardington, 2004 and Vass, 2008:98;) and long distances or hazardous journeys to school (DoE 2003:86; Motala et al, 2007:74). With a participation rate of 95%, South Africa is on a par with, or even above, what is considered to be a feasible target for participation in education, especially for a developing country (Hawes 1983:132 and Colclough and Lewin 1993:18-19). Achieving 100% participation is considered to be a challenge for all countries, even developed countries, as enrolling the last 5% to 10% of children 'will necessarily include a high proportion of children from very "marginal" groups', including, for example children with severe learning disabilities, migrants, children from remote settlements and farms, and children from extremely poor households and involve unit costs substantially above the national average (Williams 1983:160-161).

The biggest area of concern occurs among youth aged 16 to 18, the age that is no longer covered by compulsory education and which coincides with the further education and training band. From the age of 16, participation in education begins to decline: 89.7% of 16 year olds, 82.9% of 17 year olds and 68.5% of 18 year olds were enrolled in an educational institution in 2007. Despite the fact that enrolment in further education and training has increased steadily, there has been very little improvement, if any, in the participation rate, of learners in the 16 to 18 year age group, indicating that the increase in enrolment in FET over this period has not keep pace with the increase in the population of 16 to 18 year olds. Between 1996 and 2001 the participation rate of 16, 17 and 18 year olds declined. Although the participation rate then increased slightly for 16 and 17 year olds in 2007, it continued to decrease for 18 year olds. Several factors could

[6] In terms of an amendment (RSA, 2002) to the age-grade regulation, from January 2004 children who were five turning six before 30 June could be admitted to Grade 1. Despite the lowering of the age at which children may begin school, seven years old remains the age at which compulsory schooling begins.

account for the decline in the participation rate among this age cohort: Firstly, it could be a result of the normalisation of enrolment in secondary education, after the huge influx of learners in the mid-1990s (see Figure 29) when learners who had previously been excluded from education under apartheid, entered school; second, the implementation of the age-grade regulations in 2000 resulted in many learners who were 16 years or older but still enrolled in primary school or in the lower secondary grades, dropping out of school; third, there may have been a big drop-out of learners in this age cohort in the early part of the 2000s as weak Grade 11 learners were discouraged from progressing to Grade 12 if it was thought that they might not pass the matric examination; and, fourth, there was a substantial decline in the number of learners repeating matric from 12% of candidates in 1999 to only 1% of matric candidates from 2000 onwards (Shindler & Beard, 2001:2; Shindler, 2005: 41-42). While it is not uncommon for the participation rate in education to decline after compulsory education (England and Northern Ireland recorded a participation rate of 78.4% and 66.6% respectively among 16 and 17 year olds in 2004/05 (Northern Ireland Statistics and Research Agency, 2005)), it is a concern that a large number of youths are leaving school without obtaining a matriculation pass, and are not enrolling in any other educational institution such as further education and training colleges or adult education centres.

Figure 31: Enrolment at educational institutions among the population aged 5-24, 1996, 2001 and 2007



	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1996	22.5	49.1	73.1	81.8	87.9	91.3	93.6	94.4	94.8	94.4	92.7	89.3	84.1	75.7	65.3	54.6	45.8	37	28.8	23.1
2001	45.6	70.3	88.4	93.4	94.6	94.4	94.8	95.7	95.1	94	91.3	87.4	81.5	70.7	57.9	46.2	35.7	25.5	18.8	14
2007	80.9	91.4	94.8	95.6	96.3	96.3	96.3	96	95.7	95.1	93.4	89.7	82.9	68.5	56.3	43.2	32.3	23	15.1	10.8

Source: Statistics South Africa, (2007). Community Survey 2007 (Revised Version). Statistical Release P0301. 24 October. Retrieved 30 January 2008 from **http://www.statssa.gov.za/publications/P0301/P0301.pdf**

An interesting characteristic of South African education is that unlike many other developing countries, access to schooling in South Africa has been achieved equally for both male and female children. As can be seen in Figure 32, there is no difference in the rate at which males and females of official school going age participate in schooling.

Figure 32 Participation rate in schools by gender, 2001

Age	Male	Female
7-13 years	94%	94%
14-18years	78%	77%
7-18 years	87%	87%

Shindler, J& Fleisch, B. (2007)

.

However, an analysis of GER by gender and level of education indicates that the throughput of male learners is more problematic than that of female learners. As can be seen in Figure 33, the GER was higher for males (105%) than for females (101%) in primary school, which means that there was a higher repetition rate among male learners than female learners at this level. In secondary school the situation was reversed and while the GER for females was 92%, it was only 85% for males, indicating that a far bigger proportion of male than female learners were not participating in secondary schooling.

Figure 33: Gross enrolment rate by gender and level of education, 2005

Gross enrolment rate by gender and level of education, 2005

	Male	Female
Primary	105%	101%
Secondary	85%	92%

Source: DoE, (2006). Education Statistics in South Africa at a Glance 2005, November 2006

Clearly for both genders, though, throughput is a problem. The Ministerial Committee on Learner Retention in the South African Schooling System (DoE, 2007d) provides data on learner dropout rates and survival rates but unfortunately the information is not available by gender. According to the Ministerial Committee (2007d:xiii), during the first eight years of school the dropout rate is minimal. However from Grade 9 onwards it increases substantially (see Figure 34) As a result, the survival rate of those completing Grade 9 is currently over 85% and has improved substantially over time: of those children born between 1985 and 1989, 86.2% completed Grade 9 compared to 81.1% of the 1980 to 1984 birth cohort, 78.8% of the 1975 to 1979 birth cohort, and 71.6% of the 1970 to 1974 birth cohort (DoE, 2007d:27) After Grade 9 the survival rate drops substantially and there has been no change or improvement in the survival pattern of the various birth cohorts since the 1970 to 1974 birth cohort. Of those learners with Grade 9 just under 90% reach Grade 10, about three-quarters reach Grade 11 and between 55% and 60% reach Grade 12 (DoE, 2007d:28).. As a result only slightly more than 46% of the 1980 to 1984 birth cohort who started Grade 1 eventually reached Grade 12 (DoE, 2007d:xiii)

Figure 34: Drop-out rate of the 1980 to 1984 birth cohort by grade

Grade	Dropout rate (%)
1	0.2
2	0.4
3	0.7
4	1.2
5	1.7
6	2.8
7	4.8
8	7.0
9	11.5
10	16.1
11	24.2
12	

Source: DoE, 2007d: xiii

The inefficiency that occurs as a result of the high number of learners repeating a grade or dropping out of school can be seen in the average number of learner-years' effort that is required for a learner to reach Grade 12. This has been calculated in Figure 35 by using a very simple methodology with one year's data rather than a year-by-year enrolment progression. There has been a reduction in the average number of learner years required to complete primary school - from 8.3 years in 1997 to 7.5 years in 2005 - mainly due to the 20% drop in Grade 1 enrolment. Similarly the average number of learner-years required to attain Grade 11 dropped from 16.1 to 13.4. Despite these improvements, the average number of learner-years of effort to reach Grade 12 increased from 19.3 years in 1997 to 21.8 in 2005, primarily due to the decrease in the number of Grade 12 learners. As a result of learners dropping out and/or repeating, the average number of learner-years of effort for a learner to reach Grade 12 in 2005 was 82% more than the minimum 12 years needed to complete, up from 60% in 1997.

Figure 35: Years of effort to complete Primary School and Attain Grade 11 and 12 in 1997 and 2005

	1997	2005
Enrolment in Grade 1	1534073	1233581
Enrolment in Grade 7	925177	972542
Enrolment in Grade 12	556045	538909
Learner-years of effort to attain primary school	8.3	7.5
Learner-years of effort to attain Grade 11	16.1	13.4
Learner-years of effort to attain Grade 12	19.3	21.8

Source: 1997 data Perry and Arends, (2004); 2005 data calculated from DoE, (2006). Education Statistics in South Africa at a Glance 2005, November 2006

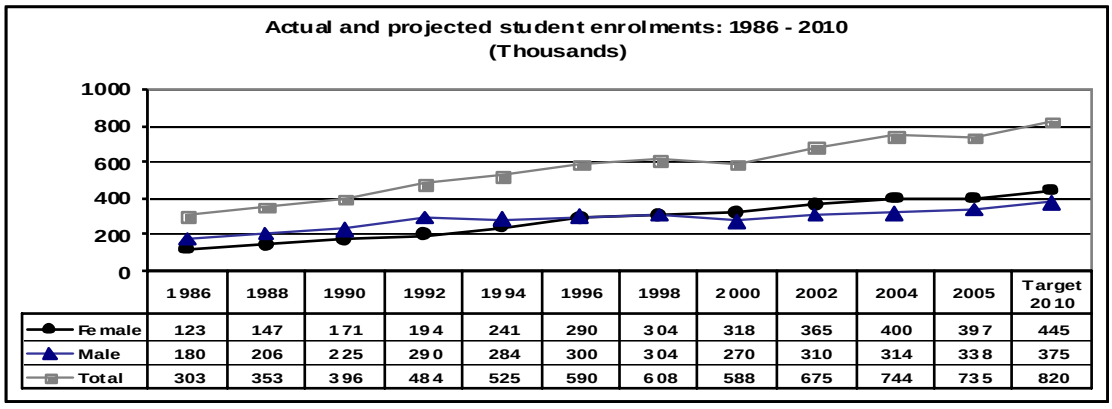
.

3.4 Higher Education

Higher education experienced a massive increase in enrolment in the two decades between 1986 (the first year for which reliable data is available according to Bunting and Cloete, 2007) and 2005, growing from just over 300 000 to close to 750 000, an increase of 143%. Much of this growth occurred prior to 1994, when numbers increased by 73%

between 1986 and the advent of democratic government, slowing to a still rapid 40% between 1994 and 2005.

Figure 36: Actual and projected student headcount in public higher education institutions, 1986-2010

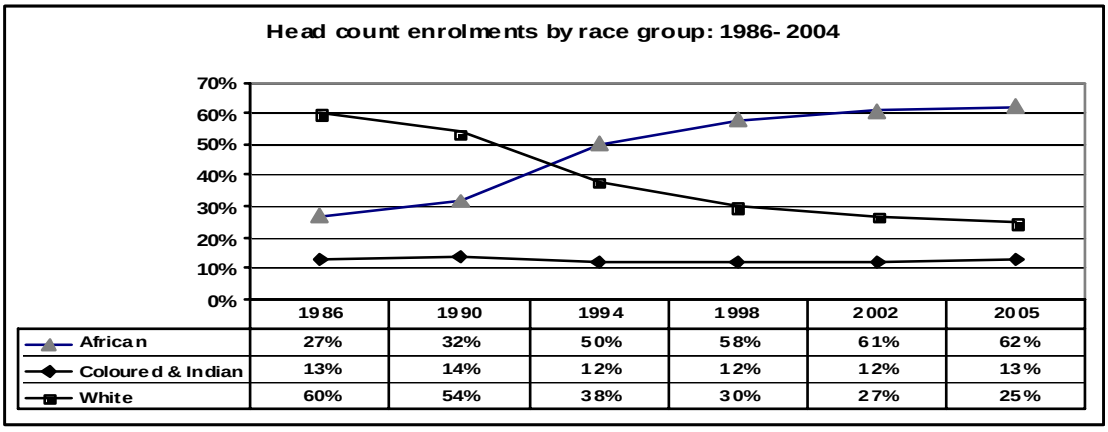


	1986	1988	1990	1992	1994	1996	1998	2000	2002	2004	2005	Target 2010
Female	123	147	171	194	241	290	304	318	365	400	397	445
Male	180	206	225	290	284	300	304	270	310	314	338	375
Total	303	353	396	484	525	590	608	588	675	744	735	820

Source: Bunting and Cloete, (2007)

Numbers of female students lagged behind those of male students until 1996, when women began to outnumber men. With the transition to democracy, the period after 1994, with its emphasis on equity and redress, saw a huge increase in African students enrolling at higher education institutions. While in 1986 African students comprised only 27% of the share of higher education enrolment and white students 60%, by 1999 there were almost twice as many African students as white students enrolled in higher education (Du Toit, 2007:56).

Figure 37: Enrolments at public higher education institutions by race, 1986-2004



	1986	1990	1994	1998	2002	2005
African	27%	32%	50%	58%	61%	62%
Coloured & Indian	13%	14%	12%	12%	12%	13%
White	60%	54%	38%	30%	27%	25%

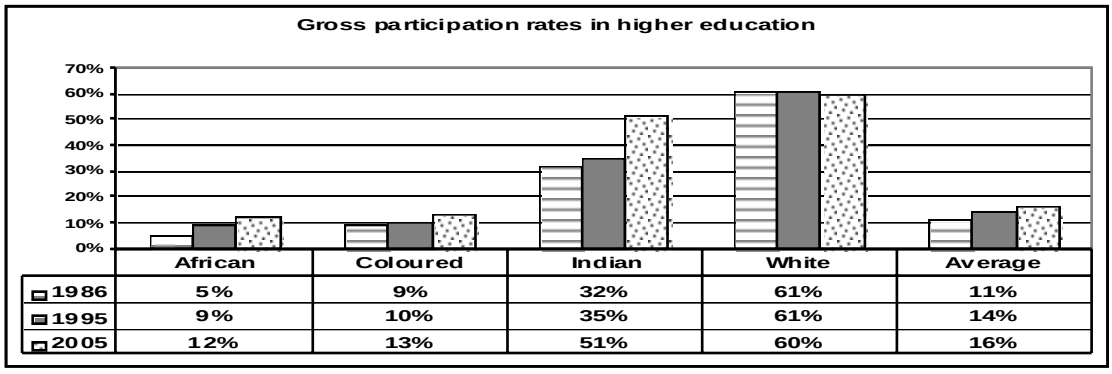
Source: Bunting and Cloete, (2007)

As a result of the large influx of African students, mainly in the traditionally whites-only institutions, enrolment in higher education increased by 19.1% between 1994 and 1998, although most of this growth took place at technikons rather than universities and the growth between the years was erratic with the greatest growth being experienced between 1994 and 1995. While enrolment dropped in 1999 by 8%, it picked up again in 2000 and continued to grow until 2004. Between 2000 and 2004 higher education enrolment grew by a massive 34.4%. One of the reasons for this huge increase was the upward trend in

the senior certificate pass rate which resulted in the number of learners passing the senior certificate examination with exemption (the minimum requirement for entrance into university) increasing from 63 725 in 1999 to 86 531 in 2005 (an increase of 36%). Other factors which contributed to the increase in student enrolment include the inclusion of teacher colleges of education into higher education institutions and the growth in part-time or distance education students at public higher education institutions through the facilitation of local and international private institutions (Lewis & Bot, 2001:19).

However, the large growth in their absolute numbers notwithstanding, the participation rates of African and coloured students in terms of their respective populations remains very low. While the participation rate for whites has held steady at 60% since 1986, and while rates for Indians have increased from 32% to 50%, African and coloured students are under-represented at 12% and 13%, respectively.

Figure 38: Gross participation rates in public higher education institutions by race



	African	Coloured	Indian	White	Average
1986	5%	9%	32%	61%	11%
1995	9%	10%	35%	61%	14%
2005	12%	13%	51%	60%	16%

Source: Bunting and Cloete, (2007); Breier and Mabizela (2008: 283).

3.5 Further Education and Training

Since 1996, when a National Committee on Further Education was established, the further education and training (FET) college sector in South Africa has been in transition, undergoing transformation in order to improve the quality and make the sector more responsive to current needs (Akoojee et al, 2008:254). This has involved the merging of 150 institutions, the establishment and recapitalisation of 50 public FET colleges and the development of new curricula for the sector. We discuss the latest developments in this field under sections 4.4 and 4.7.4 below, and confine the present discussion to matters of access.

Between 1998 and 2002 enrolment in public FET colleges increased considerably (see Figure 39). Headcount enrolment increased from 302 550 in 1998 to 406 143 in 2002, an increase of 34%, while full-time equivalent (FTE) enrolment increased by 17% from 122 740 in 1998 to 143 913 in 2002. The higher increase in headcount enrolment than FTE enrolment suggests a very high growth in the enrolment of part-time students. This is particularly evident in the increase in enrolment between 2000 and 2002, when headcount enrolment increased by 20% but FTE enrolment increased by only 4%. The rapid growth

in student numbers in the DoE colleges, was accompanied by a proliferation of private providers who churned out short-term programmes of highly variable quality (Umalusi, 2007).

Figure 39: Headcount and Full-time Equivalent Enrolment in Further Education and Training Colleges, 1998, to 2007

	Headcount		Full-time equivalents	
	Number	% change over previous period	Number	% change over previous period
1998	302550		122740	
2000	337300	11	138712	13
2002	406143	20	143913	4
2004	373453	-8		
Change 98/04	70903	24		17

Source: Akoojee et al, (2008:257).

The increase in the enrolment in FET colleges resulted in an improvement in the participation rate. Between 1998 and 2002, the participation rate of the population aged 15 to 29 years in FET colleges increased from 1.13% to 2.7% (Akoojee et al, 2008:260). International comparative studies suggest that around 4% of the total population of developed countries is enrolled in vocational programmes, and if this norm was applied to South Africa, it would mean increasing enrolments four-fold. The DoE has committed itself to increasing participation in the college sector to 1 million by 2010 (DoE, 2007b).

In addition to low total numbers, participation shows marked disparities with respect to both race and gender. Although African learners comprised 74% and white learners 16% of total headcount enrolment in 2002, the participation rate of Africans was 2.6% while for their white counterparts it was 3.6% (Akoojee et al, 2008:259 and 260). There are also marked gender inequalities in enrolments: in 2004 the ratio of male to female students stood at 0.6.

3.6 Adult education

In measuring literacy levels in South Africa it is usually assumed that functional literacy is attained when a minimum level of formal education is reached. In this report a person is defined at functionally literate if he/she has achieved at least seven years of education (i.e. has completed primary school). A person is defined as totally illiterate if he/she has received no education at all.

According to Figure 40, there has been a substantial increase in South Africa's adult literacy rate, with the number of functionally literate adults aged 20 and above increasing from 64% in 1996 to almost 74% in 2007. At the same time the proportion of totally illiterate adults dropped from 19.3% in 1996 to 17.9% in 2001 and then to 10.3% in 2007.

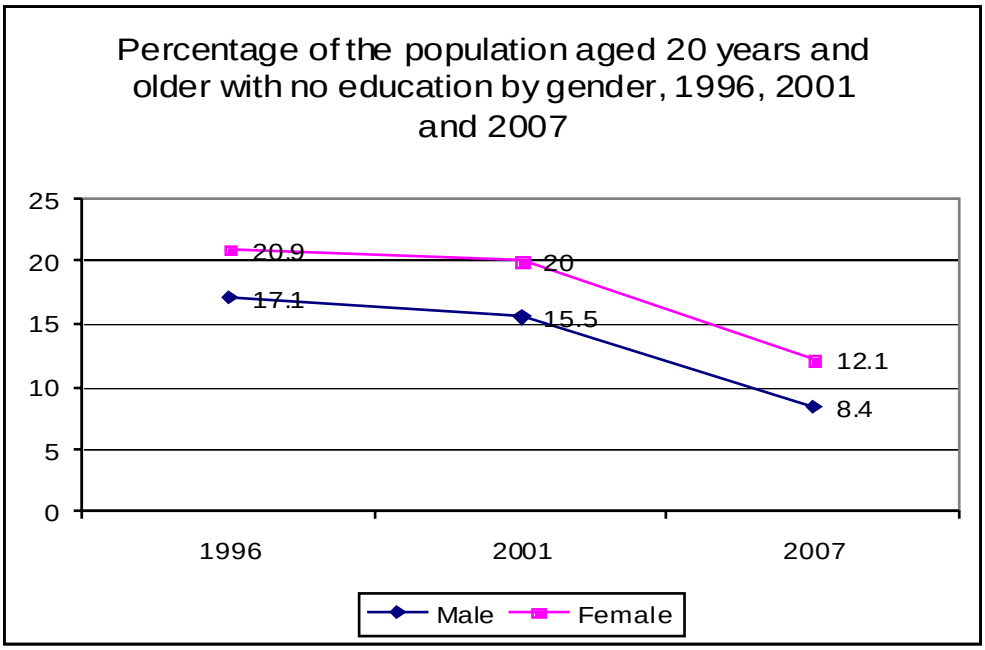
Figure 40: Percentage of the population aged 20 and over by level of education, 1996, 2001, and 2007

	1996	2001	2007
No schooling	19.3	17.9	10.3
Some primary	16.7	16	16
Grade 7 complete and higher	64	66	73.7
Total	100	100	100

Source: Statistics South Africa, (2007: 32). Community Survey 2007 (Revised Version). Statistical Release P0301. 24 October. Retrieved 30 January 2008 from http://www.statssa.gov.za/publications/P0301/P0301.pdf

For both male and females the percentage of adults who are totally illiterate has been decreasing since 1996 (see Figure 41). However, gender disparities are evident with far fewer male adults with no schooling at all than female adults. In 2007, while 8.4% of male adults had received no schooling at all, this applied to 12.1% of females.

Figure 41: Percentage of the population aged 20 years and older with no education by gender, 1996, 2001 and 2007



Source: Statistics South Africa, (2007). Community Survey 2007 (Revised Version). Statistical Release P0301. 24 October. Retrieved 30 January 2008 from http://www.statssa.gov.za/publications/P0301/P0301.pdf

Most of the improvement in the adult literacy rate has been a result of improved access to schooling. This is evident in the improvement in the youth literacy rate (persons aged 15 to 24 years), which improved from 88.5% in 1990 to 93.9% in 1996 (UNESCO 2005:287). It does not appear that adult basic education and training (ABET) programmes are having much impact on literacy rates. According to Baatjes (2008:215), provincial department of education ABET programmes reach no more than 150 000 adults a year, and only about 75 000 of these learners complete an academic year. It is estimated that only about 343 000 learners were reached through the South African National Literacy Initiative (SANLI) which ran from 1999 to 2003 (Baatjes 2008: 218). Access to ABET programmes is clearly an area of concern

3.7 Conclusion

This section looked at the extent of access to education in South Africa. Access to primary and basic education is far-reaching, while secondary education, particularly the post compulsory further education and training phase, has expanded at a rapid rate. There is, however, concern that a substantial proportion of youth aged 16 to 18 years are not participating in education and are leaving school without matriculating and that there has been little, if any, improvement in the participation rate of these youths since 1996. Access to schooling in South Africa has been achieved equally for both male and female children. However, the efficiency with which learners move through the system is problematic, particularly for male learners who appear to repeat more than female learners and then drop-out of school without completing their schooling in greater numbers than their female counterparts. The plan to phase in a reception year (Grade R) by 2010 has resulted in a most remarkable growth in the participation rate of five and six year olds in education between 1996 and 2007.

Higher education has experienced a massive increase in enrolment. However, the state has indicated that funding and infrastructure have not been able to keep pace with this rapid growth and plans to cap enrolment in individual institutions in conjunction with the institutions. This may seriously impact on the development of high level professional and technical skills that are so urgently required by the economy. Enrolment in the further education and training college sector has grown substantially in recent years, but most of this growth has been in the enrolment of part-time students. Furthermore, participation is unequal with whites having a higher participation rate than Africans in this sector.

While the literacy rates of adults are improving, disparities continue with a far higher proportion of totally illiterate women than men. Access to ABET programmes is poor as only a small number of adult learners appear to enrol in these programmes.

CHAPTER 4: Quality

4.1 Preschool

We have no direct information on the quality of either form of preschool provision – Grade R classes and informal ECD programmes. The PIRLS report notes that there is a significant difference in the reading scores of learners who spend at least one year in preschool (259), compared with those who did not (236). However, there is not a substantial difference between those who spend one year, compared with those who spend 3 years at preschool. The authors speculate that the absence of association between time spent in preschool and learning achievement almost certainly points to the fact that the quality of preschool varies enormously in South Africa, and that it would appear that one year of quality provision is as good or better than 3 years of poor quality provision. In the face of these findings, it is of concern that the DoE is going to scale in its roll out of the Grade R programme, without any attempt to establish the requirements of quality preschool provision through the evaluation of existing initiatives.

4.2 Primary schools

4.2.1 Low quality

South Africa participates in three cross-country comparative studies: Trends in Mathematics and Science Studies (TIMSS)[7] (Grade 8 maths and science), Progress in International Reading Literacy (PIRLS)[8] (Grade 4 and 5 reading) and Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ)[9] (Grade 6 reading and maths). The message coming from all three sources is unambiguous: the country performs poorly compared with many of its more impoverished neighbours, and very poorly in relation to developing countries in other parts of the world. For example, in the latest round of SACMEQ testing conducted in 2000, of the 14 Southern and Eastern African countries participating, South Africa was placed ninth in both reading and mathematics at grade 6 level.

South Africa scores significantly lower than a number of countries whose GNI figures are around one-tenth of South Africa's. The picture to emerge from numerous results similar to those shown in

Figure 42 is that South Africa is not getting value for money from its public school system. Although school is accessible to the majority of children, the skills produced are expensive and their quality low. This affects both the trainability of adults in the workplace and the educability of school leavers entering the Further and Higher

[7] Trends in Mathematics and Science Studies (Howie, 2001; Reddy, 2006)
[8] Progress in International Reading Literacy (Howie et al, 2007)
[9] Southern and Eastern Africa Consortium for Monitoring Education Quality (Moloi and Strauss, 2005)

Education sectors. The country's poor participation and throughput rates at all levels of post-primary education and training are a direct result of the inability of the school system to teach the foundation skills of literacy and mathematics effectively.

Figure 42: Reading and maths scores for SACMEQ II (Constructed from SACMEQ, 2005)

Country	GNI per capita**	NER*	Reading		Mathematics	
			Mean	Δ SES°	Mean	Δ SES°
Seychelles	8090	100	582.0	32.6	554.3	35.4
Uganda	270	na	582.4	23.2	506.3	22.9
Kenya	460	66	546.5	52.2	563.3	40.2
Tanzania	330	69	545.9	46.4	522.4	36.5
Mauritius	4640	97	536.4	46.8	584.6	57.7
Swaziland	1660	75	529.6	21.9	516.5	11.1
Botswana	3310		521.1	27.2	512.9	30.9
Mozambique	250	55	516.7	12.5	530.0	5.1
South Africa	3630	89	492.3	103.4	486.1	77.5
Zanzibar	Na	na	478.2	24.1	478.1	9.9
Lesotho	740	86	451.2	5.3	447.2	-3.7
Namibia	2370	78	448.8	64.6	430.9	52.6
Zambia	450	68	440.1	32.9	435.2	19.3
Malawi	170	na	428.9	17.8	432.9	14.0

** Gross National Income per capita: US$ 2004 (World Bank, (2006). World Development Indicators. Washington, DC: The Bank).

* Net Enrolment Rates: primary schools, 2003/4 (UNESCO Institute for Statistics at http://www.uis.unesco.org/ev.php?ID=2867_201&ID2=DO_TOPIC).

Δ SES ° The difference in scores for high- and low-socio-economic status (SES) schools

These scores are confirmed by the PIRLS study, in which South Africa appears at the bottom of the 45 countries tested. South Africa was the only country in which both Grade 4 and Grade 5 children participated, in contrast to all other countries where only Grade 4 children wrote the test. Scores for both cohorts of South African children were well below the international mean.

Figure 43: South Africa's PIRLS scores compared with those of selected countries

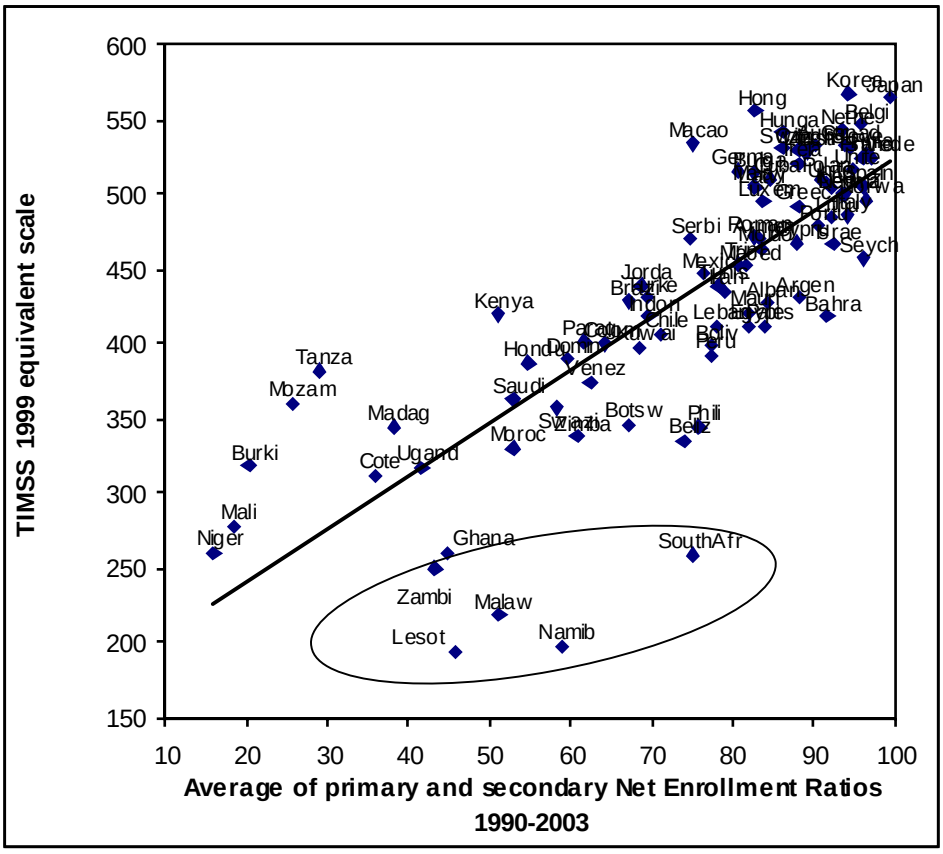
	Human Development Index	Language of Instruction same as Mother Tongue of majority	G4	G5
Singapore	0.92	No	558	
International mean			500	
Trinidad & Tobago	0.81	?	436	
Kuwait	0.87	No	330	
Morocco	0.64	No	323	
South Africa	0.65	No	253	302

Source: Howie et al, (2007)

It has to be said that South Africa has primary school enrolment rates approaching 100%, compared to the relatively more elite provision in many poorer countries, leading some to call into question the validity of the kind of league table shown in

Figure 42 and Figure 43 (Fleisch and Perry, 2006). In order to investigate this question, Crouch and Vinjevold (2006) constructed an achievement index and compared this to combined primary and high school achievement. The results (Figure 44) indicate that, while most countries manage to find a balance between access and quality, South Africa clearly has not. It is also interesting to note how countries cluster together regionally, with South Africa and most of her nearest neighbours featuring prominently in the lower half of the of the graph: as a group these countries exhibit variable access but low quality.

Figure 44: Correlation between learning outcomes and enrollment ratios



Source: Crouch and Vinjevold, (2006)

The poor quality of the South African primary school sector is not a feature of the poorest parts of the system, but occurs across the board, and the idea that, while the majority of the country's schools are underperforming, the best schools are world class, is a myth. This point is vividly made by van der Berg and Louw (2006a), who disaggregated the SACMEQ scores by poverty quintile, and revealed that South Africa's richest 20% of schools are outperformed by the top quintile of Kenyan and Mauritian schools (Figure 45). For all four lower quintiles South Africa's mean scores lie below the SACMEQ means.

Figure 45: SACMEQ mean maths score by quintile and country

Quintile	1	2	3	4	5	Mean
Botswana	491	499	510	508	557	513
Kenya	540	545	555	565	611	563
Lesotho	443	448	448	445	452	447
Malawi	422	427	435	433	447	433
Mauritius	519	564	587	620	640	584
Mozambique	526	525	531	530	538	530
Namibia	403	402	411	425	513	431
Seychelles	520	541	555	576	579	544
South Africa	**442**	**445**	**454**	**491**	**597**	**486**
Swaziland	506	511	511	513	541	517
Tanzania	484	511	529	528	560	522
Uganda	484	497	498	509	543	506
Zambia	414	425	436	434	466	435
Zanzibar	478	472	478	479	484	478
Mean	**468**	**480**	**485**	**492**	**560**	**468**

Source: van der Berg and Louw, (2006a)

4.2.2 High inequality

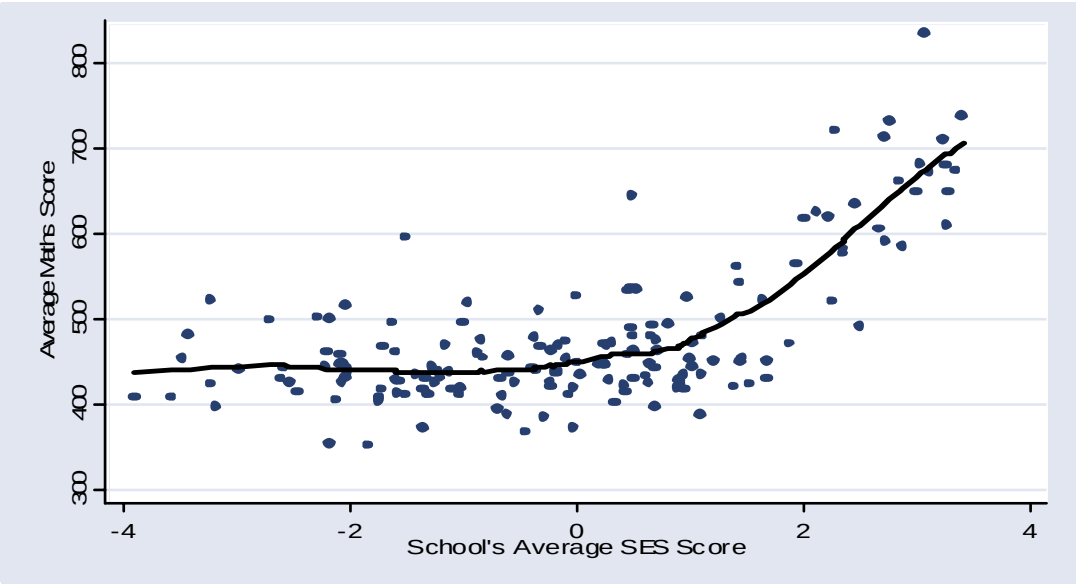
A prominent feature of the South African system is the very high degree of inequality between schools, as shown by the differences in scores between high- and low-SES schools on the SACMEQ tests (Δ SES°) (

Figure 42). The country's closest rival in degree of inequality in the region is its former colony, Namibia, which is also exceptionally high. This is obviously a legacy of the past and one which elected governments in both countries are finding difficult to reverse.

All research studies on the quality of schooling in South Africa concur that poverty remains far and away the most powerful determinant of educational opportunity. The Pupil Pogress Project (PPP) found that between two-thirds and three-quarters of the variance in pupil scores is explained by socio-economic factors (van der Berg et al, 2005). The high levels of between-school inequality in the South African system are so marked that test scores typically show a bi-modal distribution (Gustafsson, 2005), in which two sub-populations appear to behave differently (Figure 46).

For the bottom 60% of the SES range the gradient between SES and SACMEQ maths scores is flat; at higher SES levels the curve assumes a quadratic shape, with increasing value added to the scores at higher levels of socio-economic advantage. Van der Berg (2005) speculates that this pattern, shown by both the reading and maths scores, indicates that below a certain SES threshold schools are unable to convert additional resources into educational advantage.

Figure 46: Relationship between SES and SACMEQ II maths scores



Source: van der Berg, (2005)

The full extent of the huge achievement gap between children in advantaged and disadvantaged schools became evident in the Western Cape Learner Assessment Study. (Western Cape Education Department (WCED), 2004). In this study, every primary school in the Western Cape with five or more Grade 6 pupils were tested in 2003 (34 596 children). One of the main purposes of this assessment exercise was to determine the proportion of learners who have attained official curriculum grade-level competence in literacy and mathematics.

The results of the study showed that only 12 104 children (35.0 percent) were performing at Grade 6 level. While the national Grade 3 Systemic Evaluation reported only a single mean score, with no reference to the proportion of learners who "made the grade", the Western Cape not only reported on the achievement level based on curriculum requirements, but disaggregated the results by former department and by school poverty quintile.

Figure 47: Western Cape literacy pass rates for Grade 6 by former department, 2003 and 2005

Ex-Dept	**Grade 6**		*% Distribution of Learners by Ex-Dept*	
	2003	**2005**	***2003***	***2005***
Cape Education Department (CED)	82.9	86.9	20.1	21.2
Department of Education and Training (DET)	3.70	4.70	13.6	14.3
House of Representatives (HOR)	26.6	35.5	65.8	64.2

Total Province	35.0	42.1	100	100

Source: Western Cape Education Department (WCED), (2004). Grade Six Learner Assessment Study 2004: Final Report. Cape Town: The Department.

The results powerfully illustrate the scale of the achievement gap. While more than four out of five Grade 6 children in former white schools were reading at the level specified by the curriculum, the figure, while improving, was just over one in three in former Coloured schools. In former DET schools, only four children in a hundred were reading at grade level. The 2005 report notes that the major challenge remains with the former DET schools.

On the numeracy test, the researchers found that, overall, only 15,6% of Grade 6 learners were performing at grade level in 2003. Forty percent of the children in the sample could only operate at Grade 3 level. Less than one per cent of children (the talented few) in the poorest (former DET) schools were able to handle the Grade 6 questions, compared to 62 percent in wealthiest schools. Between 2003 and 2005, the pass rates were little changed for the CED and DET schools, while former HOR schools showed a mean overall increase of 33%.

The high levels of inequality across the South African system appear in the PIRLS results in the form of different scores for the different language groups. South African learners were given the choice of writing in their home language, or in the language of the school, which for the majority of African pupils is English after the first 3 years: thus, most SA children receive instruction in a second or third language.

Figure 48: South African PIRLS scores by language

Home Language	**Test language**	
	Same as HL	**Different from HL**
International mean	500	
English	458	285
Afrikaans	364	290
isiXhosa	190	180
isiZulu	230	225
Sesotho	220	205

Source: Howie et al, (2007)

For English- and Afrikaans-speaking children there is a large difference in test scores, depending on whether they write the test in their home language or another language. This is to be expected. However, what is unexpected is that for speakers of African languages this difference is small to very small. It makes very little difference to the scores of African learners whether they write the test in their home language or in another language (which is generally English). The most likely explanation for this phenomenon is that the schools attended by these children are very ineffective in teaching reading: they are not teaching their learners to read in either their home language or in any other language.

4.3 High schools

4.3.1 Quality

Data from the Trends in International Mathematics and Science Study, a cross-national testing programme conducted periodically at Grade 8 level provides one of the few sets of longitudinal data for the South African system. South Africa participated in 1995, 1999 and 2003; achievement scores are shown in Figure 49.

Figure 49: TIMSS scores 1995, 1999 and 2003

Country	GNP (USD)	Education spend (% of GNP)	Average scale scores Mathematics			Science		
			1995	1999	2003	1995	1999	2003
Singapore	32810	3.0	609	604	605	580	568	578
Int average			519	521	467	518	521	474
Tunisia	2110	7.7		448	410		430	404
Chile	4820	3.6		392	387		420	413
Morocco	1260	5.3		337	387		323	396
Botswana					366			365
Ghana					276			255
SA	3210	8.0	278	275	264	263	243	244

Source: Howie (2001), Reddy (2006)

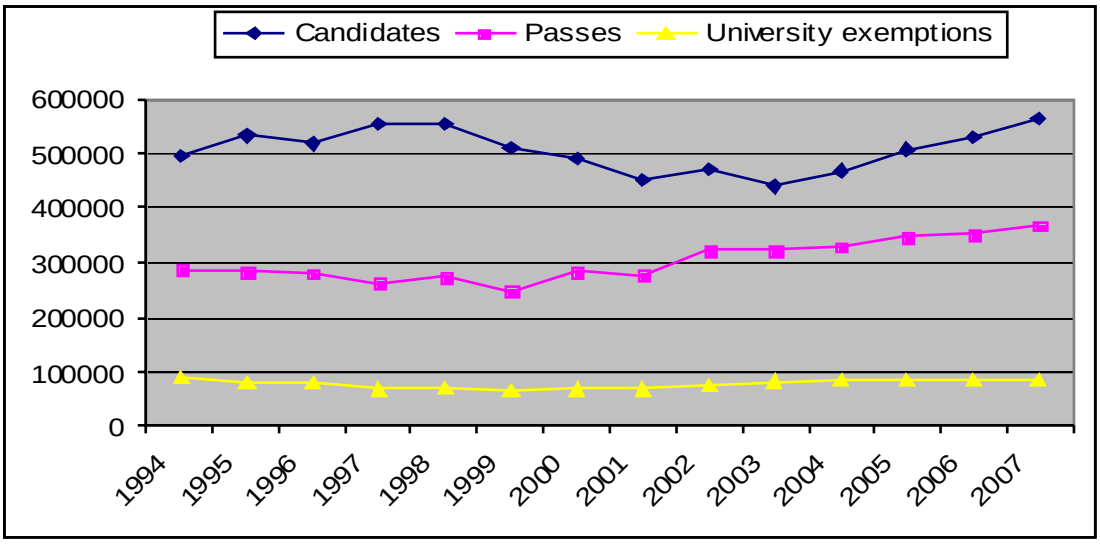
The low comparative performance by South Africa revealed at the primary school level in Figure 43 and Figure 48 is mirrored at high school level in Figure 49. In addition, the TIMSS data shows no significant change in high school maths and science scores between 1995 and 2003; if anything there was a small decline in maths performance in 2003 and a similar drop in the science scores in 1999. South Afica has decided not to participate in TIMSS in 2008.

A good internal measure of long term trends in high school performance is given by the Senior Certificate (SC) examinations, written by school leavers at the end of Grade 12. These are high stakes exams which have a very large influence on the future careers of all young people, in both the job market and the higher education sector. They are of particular interest to the present study as they are the only measures of quality for which annual figures are continuously available since 1994. Crouch and Vinjevold (2006) point out that there is a very long tradition in South Africa, discernible already in the 1930s, of emphasising mass access in a very forgiving manner, first for white children and some 40 years later for all others. Thus, standards, or what is expected from children, has steadily declined over the decades, with those taking mathematics, for example, falling from 100% in 1924, to 87% in 1930 and 65% in 1946.

The first years of democratic government saw an initial rise in the number of SC candidates, followed by an overall decline in 2003; much of this decline is attributable to the elimination of overage students from the system. Since then a steady increase in the

numbers of candidates and passes indicate increased levels of efficiency of the high school sector. However, the number of candidates who qualify to enter higher education has remained constant at under 20% of candidates and under 10% of the age cohort. Similarly, although the number of candidates passing maths on the Standard Grade (SG) has begun to rise, those who achieve Higher Grade (HG) passes in maths has remained constant at around 25 000, or 2.5% of the cohort. These figures are further confirmation of an enduring characteristic of the South African schooling system: while the proportion of any age cohort passing through the system is relatively high, the number of students who exit the system with high level skills is very low and relatively static.

Figure 50: Senior Certificate candidates, passes and exemptions, 1994-2007



Source: Compiled from annual DoE reports on SC results

4.3.2 Inequality

As can be expected, South Africa's low quality, inequitable primary school system provides the foundation for a high school sector with the same characteristics. One way of illustrating the inequitable nature of the secondary sector is to categorise schools according to the number of HG maths passes they produce in the SC exams.

Figure 51: Distribution of high schools by performance in mathematics, 2004

	Privileged* schools	African schools	Sub-total	Prop of Total	Prop of HG Math passes
Top performing**	380	34	414	7%	66%
Moderately performing	254	573	827	14%	19%
Poor performing	600	4 277	4 877	79%	15%
Total	**1 234**	**4 884**	**6 118**		

* Prior to 1994, administered by the House of Assembly, House of Representatives or House of Delegates

** Top performers produce at least 30 maths passes, with at least 20% at the higher grade (HG); moderately performing schools produce at least 30 math passes, mostly at standard grade (SG), while poorly performing schools fail to achieve 30 passes in math.
Source: Simkins, (2005)

Four features of Figure 51 are worth noting:

- 79% of the country's high schools fall into the poorly performing category, producing only 15% of all HG passes in mathematics. The overwhelming majority of children attending these schools are poor and African.
- Two-thirds of HG math passes are produced by a small minority (7%) of schools. The majority of these were privileged under apartheid, although 34 of them have a history of disadvantage.
- 600 formerly privileged schools fall into the poorly performing category. These are underperforming relative to their history of privilege.
- Over 600 African schools are classified as top or moderately performing. These schools are the country's star performers, producing excellent results despite their disadvantaged history and the fact that they serve poor to very poor communities.

4.4 Further Education and Training

In 1994 the FET system was widely regarded to be of poor quality, characterised by low participation rates, low graduation and through-put rates, low technical and cognitive capacities of graduates and lack of fit between the needs of industry and the content of programmes (DoE, 2007b). The reorganisation of the sector which commenced in 1995, and which resulted in the changes in funding and access described above, culminated in 2006/07 in the recapitalisation of the colleges for building and equipping new workshops, and the development of new curricula, which saw the registration of 26 000 students for the first year of the National Certificate (Vocational) (NC(V)). We describe these latter developments in more detail in section 4.7.4 below.

4.5 Higher Education

Two major quality challenges face the higher education sub-sector. The first concerns the low numbers of students overall with high level SC results, particularly in mathemantics. This problem inhibits the rate at which the Higher Education Institutions (HEIs) are able to grow, particularly expanding all fields of science and technology. Furthermore, those students who do qualify to enter the faculties of science, technology and the prestige professions, show an under-representation of the African and coloured populations.

The second challenge concerns the high rate of student dropout. According to the Department of Education (DoE, 2005b:9) of the 120 000 undergraduates who entered higher education for the first time in 2000, 30% dropped out at the end of their first year of study and half of the cohort dropped out before completing their degrees (see Figure 52). Only 22% of the total cohort had graduated at the end of their third or fourth year of their study. The remaining 28% were still studying in 2003 but would not qualify in that

year. The Department of Education felt that it was possible that the first-time entering cohort of 2000 might not achieve an overall graduation rate of even 40% (DoE, 2005b, 9)

Figure 52 Progress of 2000 Cohort of First-Time Entering Undergraduates

Dropped out at the end of 2000	30%
Dropped out at the end of 2001	11%
Dropped out at the end of 2002	9%
Total dropped out 2000-2002	50%
Graduated in 2002 or 2003	22%
Studying in 2003 but not completing	28%
Total in cohort	120 000

Source: Department of Education (DoE, 2005b: 9)

This high rate of drop-out calls into question the ability of the higher education system to produce sufficient high-level skilled graduates required by South Africa. In engineering, for example, the Engineering Council of South Africa states that of the 50 570 people enrolled at universities across all engineering disciplines between 1998 and 2005, only 8 900 graduated - a rate of 17,5%. The graduation rate for engineers at Universities of Technology was even lower, with only a 10% graduation rate across all disciplines between 1998 and 2005 (Ray, 2008).

A Joint Initiative on Priority Skills Acquisition (Jipsa) report on increasing the supply of engineers and built environment professionals, technologists and technicians (EBEPTT) (JIPSA unpublished report, undated) found that the throughput of EBEPTTs at universities and universities of technology is around 65 percent at the 'top institutions' and about 20 percent at some others. Throughput rate is defined as the ratio of graduates to initial enrolments within 6 years of a four year programme. The report found that the throughput rate in minimal time was 'around 35 percent at the best institutions and between 5-10 percent at the others'. The report found that comparable throughput rates in East African, Indian and US institutions was around 80-90 percent. A high drop-out rate and poor throughput rate also points to the fact that many learners leave school and enter the higher education system without the cognitive skills necessary for the attainment of high level skills and knowledge.

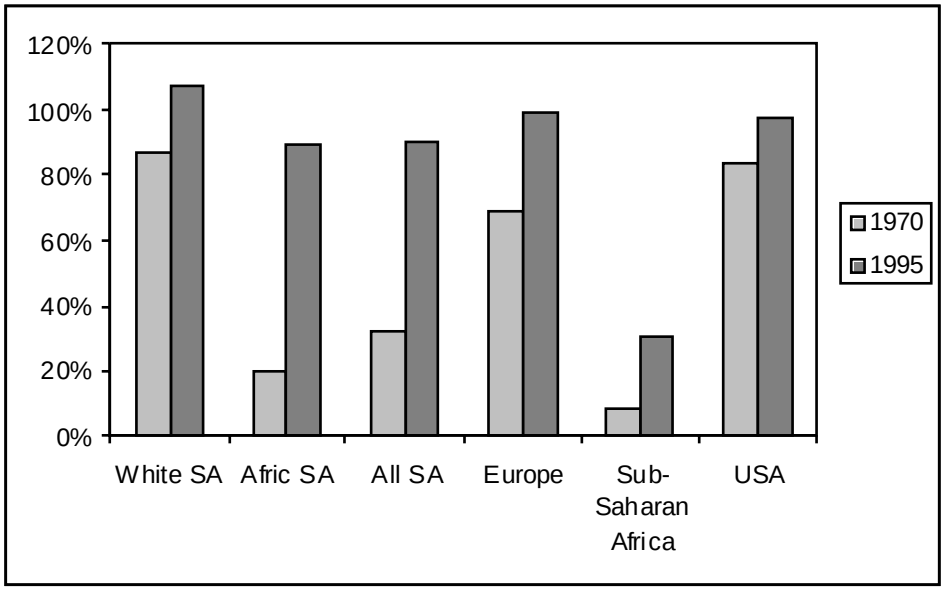
The quality problems in higher education – low numbers qualifying for study in science and technology, a skewed demographic distribution in the sciences and most professions, and low throughput and high dropout rates – all have their roots in the poor quality of the primary and secondary school pipeline. Although academic support and bridging programmes have been in place at most HEIs for over two decades, it is widely acknowledged that they cannot compensate for the weak foundations in literacy and mathematics that the overwhelming majority of South African pupils receive at school.

4.6 What are the roots of the poor quality of schooling in South Africa?

4.6.1 Rapid expansion of the system

In the last three decades of the twentieth century South Africa expanded access to secondary schooling, particularly for Africans, faster than the US or Europe, and much faster and further than any Sub-Saharan country. Thus, while total access stood at around 30% in 1970, with white children close to 90%, by 1995, total access had risen to over 90%.

Figure 53: Comparisons of expansion of access to secondary education: secondary gross enrollment ratios



Source: Crouch and Vinjevold, (2006)

As shown in Figure 44, while most countries have managed to find at least a reasonable balance between access and achievement, Southern African countries, of which South Africa is the paradigmatic case, have not managed to achieve this balance. According to Crouch and Vinjevold (2006), the roots of the poor quality of South Africa's schools lie in the rapid expansion of the system. Thus, between 1970 and 1995 large numbers of poor quality institutions were established, while the training capacity of the higher education system and the management capacity of the civil service have both consistently remained below the levels required to improve the effectiveness of the majority of the country's schools. These effects were exacerbated under the massive reorganisation of both the teacher training system and the educational bureaucracy after 1994.

With respect to the rapid expansion of the South African schooling system, two points are pertinent. First, the comparisons with developed societies such as Europe or the US are spurious, given the gross inequalities in SA, following centuries of neglect and discrimination. Second, the above analysis is not to imply that the country should have expanded access more slowly in order to build quality at the same time: both political

pressure and moral argument dictated that schooling be expanded as fast as possible in order to provide African children with educational opportunities. However, the point remains that the improved access provided to poor children does not provide anywhere near equality of opportunity, and this situation will remain until the quality issue is addressed decisively.

4.6.2 Systemic inefficiency

Anecdotes illustrating the inefficiency of the educational bureaucracy abound, but systematic evidence in the form of measurable indicators is hard to find. Overall spending levels are not good indicators, since over 80% of the budget occurs in the form of salaries, which are paid irrespective of performance. Spending on non-standard items gives a better indication of efficiency, since it reveals the ability of the bureaucracy to respond to new tasks. In this regard, spending on special library grants allocated by the Treasury in the 2007/08 budget is instructive: by January 2008 the nine provinces, collectively, had managed to spend less that 25% of the first tranche of R180m of a R1bn grant allocated to public libraries (Blaine, 2008). This is nothing short of gross negligence, in the face of South Africa's literacy problems. Similarly, in her budget speech of 2007 the Minister of Education conceded that by no means the full Treasury allocation for the Quality Improvement, Development, Support and Upliftment Programme (QIDS UP), a DoE programme through which resources are supplied to the poorest schools, had been used in the provinces in the last year (Pandor, 2007). However, even standard functions, such as the procurement and distribution of books and desks to schools, are poorly executed in a number of provinces, leaving many schools heavily undersupplied with basic education resources.

4.6.3 Teacher knowledge

One component of the SACMEQ programme was to test teacher knowledge. Of the 14 participating countries, only South African teachers refused to participate in this component. However, government initiatives such as Dinaledi (see section 4.5.1 below), and donor-funded teacher development programmes are increasingly testing teacher knowledge, as a means of assessing developmental needs and measuring the effect of the intervention.

One example is the Khanyisa programme which is working across the province in Limpopo (Taylor and Moyana, 2005). A baseline conducted in 2004 assessed the knowledge of a sample of Grade 3 teachers in two rural districts, drawn from 24 primary schools selected at random. A literacy and a mathematics test were administered. The tests were constructed by selecting items from tests designed to assess Grade 6 learners. The average score on the maths test for 25 teachers was 10 correct responses out of 15 items (67%). Only one teacher scored 100% correct (15) while 3 scored below 50%. The average score on the Language test for 23 teachers was 13 correct responses out of 24 items (55%). The majority of teachers scored between 7 and 12 marks out of a possible

24 (29% - 50%); 12 of the 23 teachers scored less than 50%, with a lowest score of 21,7%. Only one teacher scored higher than 75%.

A second example is afforded by the Integrated Education Project (IEP) which is working in 1000 schools in 4 provinces: KwaZulu/Natal, Eastern Cape, Limpopo and Northern Cape. Figure 54 shows the scores achieved by teachers. Of great concern is the fact that, after four years of an intensive intervention programme, no teacher could achieve 100% on any test, while the minimum scores for all four tests are well below what one would expect from the average learner.

Figure 54: Results of test administered to teachers at the end of the IEP project, 2007

Subject	No of teachers tested	Grades taught	Grade level of test	Teacher scores (%)		
				Min	Max	Mean
Literacy	46	1-3	1-6	58	94	75.6
Maths	63	1-3	1-4	14	73	39.7
Maths	67	4-6	4-7	10	73	32.5
Science	66	4-6	4-7	47	89	68.7

Source: Mabogoane and Pereira, (2008)

Bearing in mind the fact that the tests for both the Khanyisa and IEP programmes consisted of items appropriate for assessing the extent to which teachers have mastered the relevant learner curricula for the grades they are teaching, it is clear that much work remains to be done on improving the knowledge of many teachers in the country.

4.6.4 Use of time

Inefficiencies at the school level are reflected in the use of time in four areas:

- high levels of teacher absenteeism and a lack of punctuality
- inappropriate timetabling
- a variety of activities which interfere with time spent teaching
- ineffective teaching practices once teachers are in the classroom.

We briefly discuss each of these in turn.

4.6.4.1 Time in school

An analysis of data collected from principals and teachers during the SACMEQ study (van der Berg and Louw, 2006b) revealed high levels of teacher absenteeism, as reported by principals. This problem is particularly widespread in the 4 poorest quintiles of the system, where 97-100% of principals reported it as a problem, but a substantial proportion of schools in the most affluent quintile (26 per cent) report experiencing the same problem. Gustaffson (2005) has calculated that if this problem could be eliminated then SACMEQ scores would improve by nearly 20% in poor schools and by some 15% across the system.

4.6.4.2 Time in class

Figures from the PIRLS study indicate that South African schools spend significantly less time on reading, the foundation for all other learning, than the majority of other countries who participated. As shown in Figure 55, while nearly three quarters of South African schools spend less than 3 hours a week on reading, well under half of the participating schools in other countries do so; significantly lower proportions of South African schools are also found in the categories of schools who spend more than 6 hours a week or between 3 and 6 hours a week on reading, than the PIRLS mean.

Figure 55: Time spent on reading

	>6 h/week	3 - 6 h/week	<3 h/week
International mean	25%	37%	44%
South Africa	10%	18%	72%

Source: Howie et al, (2007)

Furthermore, when they are at school, South African teachers spend less than half their time teaching. This finding was identified by Chisholm et al (2005), who also found that:

- Teachers work an average of 41 hours per week, out of an expected minimum of 43
- 41% of this time is spent on teaching, which translates to 3.4 hours a day
- 14% of in-school time is devoted to planning and preparation
- 14% is spent on assessment, evaluation, writing reports and record-keeping

4.6.4.3 Time on task

In the Khanyisa programme mentioned above the practices of Grade 3 language and maths teachers were observed in the 24 schools sampled, where 3 lessons on consecutive days were observed. One of the most disturbing findings was that, although books were available for both language and maths in all but two of the schools, no books were seen being used in 43% of language classes and 69% of maths classes. In only 3% of language classes and in no maths classes were learners allowed to engage individually with books. The most common form of reading in these classes consisted of teachers writing 3 or 4 sentences on the board and then leading the reading of these, with children following in chorus. When faced with these practices, it is no wonder that South African children are not learning to read. Similarly, an examination of the books of these children revealed that in the majority of classes children engage in writing exercises no more than once a week. What little writing is done consists predominantly of exercises composed of isolated words; sentences are seldom seen, while longer passages are virtually non-existent.

4.7 Interventions aimed at improving quality

The first decade of democracy was a period of reorganisation of the entire education and training sector, from one based on racial exclusiveness to a unitary system. A primary concern during this time was opening access, particularly among sectors of the

population which were discriminated against under apartheid. However, these developments were not accompanied by any discernable improvement in quality and, once international and regional comparative studies began to establish the very poor performance of the South African system, the question of quality began to loom larger in the public mind during the second decade of democratic government. Quality improvement interventions currently in progress may be divided into those short-term initiatives aimed at increasing the flow of high and intermediate level skills into the economy over the next 3-5 years, and long-term programmes which seek to strengthen the foundations of the system.

4.7.1 Preschool

The longest-term investment in quality occurs in the preschool subsector, where the provision of pre-literacy and pre-numeracy skills prepare children for primary schooling. Good, formal preschool programmes have been shown in other countries to improve young children's chances of succeeding at primary school, with consequences for the later educational and career progress for the remainder of the recipients' lives. In recognition of the importance of early education, the DoE has embarked on a programme of expanding Grade R provision from 487 525 in sites in 2007 to over 700 000 during the current financial year (Manuel, 2008), taking access to preschool to around 70% of the age 5 cohort.

However, there is a concern that the rapid expansion of Grade R classes, attached to very poorly functioning primary schools, is likely to result in poor quality programmes which have little effect on improving learning in subsequent years of the school system. It would be strongly advisable to pilot and evaluate the roll-out of Grade R expansion before embarking on mass provision, in order to establish the conditions necessary for quality preschool education. Otherwise the poor quality/high inequality pattern which characterises both primary and high schools is very likely to be replicated at the Grade R level.

4.7.2 Primary school literacy and numeracy programmes

The Achilles heel of the South African education and training system is the inability of the majority of primary schools to provide adequate reading, writing and arithmetic skills to some 80% of the country's learners. The inadequate preparation of primary school learners, in turn, is a direct cause of the poor progress of students in high schools, FET colleges and the higher education sector. In response to this situation, the national and provincial DoEs have begun to focus on the problem of primary school learning.

Over the past five years, the Western Cape has developed a strategy to address the poor achievement in literacy and mathematics in the province (WCED, 2006). Three components lie at the centre of what has come to be known as the province's Lit/Num strategy:

1. Develop and support teachers
2. Work at systems level to attend to the problems surrounding the questions of mother-tongue and learning
3. Advocacy/community/family literacy.

Within schools the strategy concentrates on developing strong pre-school programmes, changing classroom practices, providing learning and teaching support materials, research, monitoring and support, with strong coordination.

What makes this intervention unique is the emphasis on the fact that all schools are required to take part in provincial tests and all schools are given targets. The province uses the results of these tests for diagnostic purposes. The tests also allow the province to set realistic 'targets' for each school. The intervention is lead by a senior manager of the department with a large team of 100 provincial officials. Progress in interventions of this kind, even in the relatively small and well-resourced province of the Western Cape, is slow, but Figure 56 shows that progress is being made in improving the teaching of reading and writing in the province. These gains are likely to accelerate as the initiative moves into full gear.

Figure 56: Improvements in literacy scores on the WCED tests

LITERACY		Per cent pass	Change on Baseline	
			Percentage point	Percent increase on BL
G3	2002	35.7		
	2004	39.5	3.8	10.6
	2006	47.7	12.0	33.6
G6	2003	35.0		
	2005	42.1	7.1	20.3

Source: Figures supplied by Western Cape Education Dept

Figure 57 gives an indication of how much more difficult it is to improve mathematics scores. While a significant improvement was achieved at Grade 6 level between 2003 and 2005, this occurred off a very low base, and the improvement in absolute terms is very small. At Grade 3 level maths scores have declined over the period 2002-2006.

Figure 57: Improvements in mathematics scores on the WCED tests

MATHEMATICS		Per cent pass	Change on Baseline	
			Percentage point	Percent increase on BL
G3	2002	37.1		
	2004	37.3	0.2	0.5
	2006	31.0	-6.1	-16.4
G6	2003	15.6		
	2005	17.2	1.6	10.3

On 18 March 2008 the Minister announced the launch of the Foundations for Learning Campaign, aimed at improving the quality of reading, writing and numeracy at all grade levels. Earlier, a National Reading Strategy was announced by the Minister (Blaine, 2007a; 2007b), which she said would be based on the WCED's programme, and consist of several elements, including:

- The publication of a Teacher's Handbooks to guide the teaching of reading in the early grades (DOE, 2008a)
- The publication of a National Reading Strategy document in March 2008 (DOE, 2008b).
- An early grade reading assessment (EGRA) tool designed to assist teachers to assess the reading levels of children
- The development of national literacy and numeracy assessment tests for all grades from Grade R to Grade 9
- Intensive training for teachers
- The provision of reading books and scientifically-based reading programmes to schools
- An evaluation in 2011 to assess the programme's effects

In the closing stages of 2007 government gazetted an important amendment to the legislation governing schooling, which has the effect of making explicit the principal's accountability with respect to learning outcomes. Thus, the Education Laws Amendment Act 31 of 2007 (RSA, 2007) requires the principal of any public school to submit annually to the provincial Head of Department:

- a report showing the academic performance of the school in relation to minimum outcomes and standards and procedures for assessment
- a plan setting out how the academic performance is to be improved over the following year (which the Head of Department may accept or refer back to the principal for revision)
- a report by 30 June on progress made in achieving the plan

This legislation is aimed at improving the accountability of schools against the performance of their learners.

4.7.3 Improving mathematics and science in high schools: the Dinaledi project

Students who pass the Senior Certificate exam with mathematics at higher grade (HG) qualify to enroll for high level professional and technical qualifications in the higher education sector. Thus, the number of candidates who obtain SC passes in maths, particularly at the HG level, provides an important barometer of the quality of the school system. In section 4.3.1 above we described some indicators of the low quality of the secondary school system: Figure 58 emphasises this point, showing that, although the absolute numbers of maths passes at both standard (SG) and HG levels is steadily

increasing with the rising numbers of candidates who write the SC exam, the proportions of maths passes remain relatively static at around 5% for HG and 25% total math passes. Figures for science are very similar.

Figure 58: SC candidates with passes in mathematics

Year	Candidates	HG passes	% HG	SG passes	Total Math passes	% passing Math
2001	449371	19504	4.3	72301	91805	20.4
2002	471309	20528	4.4	96302	116830	24.8
2003	443821	23412	5.3	99426	122838	27,6
2004	467985	24143	5.2	109664	133807	28,5
2005	508363	26383	5.2	112279	138662	27,2
2006	528525	25217	4.8	110452	135669	25,6
2007	564775	25415	4.5	123813	149228	26,4

In an attempt to increase the proportions of students obtaining maths and science passess, the Department of Education launched the Dinaledi Programme in 2001. The aim of the initiative was to raise the participation and performance of historically disadvantaged learners in Senior Certificate mathematics and physical science. In the first few years, the initiative focused on 102 selected secondary schools. In 2002, 2003 and 2004, the project showed mixed results. About one-third of Dinaledi schools increased the number of learners that passed higher grade mathematics and science, but many schools showed little or no change, while significant declines were evident in others. These results are mirrored by the experience of countless donor-funded programmes over the last 20 years: while small but significant mean improvements across the range of target schools are usually discernible, when the results are disaggregated by school, it is found that well under half the beneficiaries showed any change, with the majority proving to be impervious to interventions of any kind (Taylor, 2007).

On the basis of insights gained from the project evaluation report and other research, the project was re-authorised in 2005, and plans were put in place to strengthen the intervention model. The number of schools in the initiative was increased from 102 to 400 (7% of all high schools) in 2005. Most significantly, the criteria for selection into Dinaledi has changed, and only those schools which achieve at least 35 mathematics passes in the SC exam among African children now qualify, on the assumption that only these schools have the threshold capacity required to benefit from the programme. In 2007 29 under-performing schools were dropped from the programme and 117 new schools added, making a total of 488 Dinaledi schools.

In an important sense, the Dinaledi project is a tacit acknowledgement by the Department of Education that, in the face of weak management in the provincial departments, it is powerless to act in the majority of schools which exhibit poor levels of functionality. Many private sector donors are following suit and changing their modalities of support to schools, from models which formerly selected the poorest schools irrespective of quality, to programmes which target schools which exhibit some level of functionality. The bad news is that no one has yet found an intervention model which leverages significant change in the most poorly performing schools; as Figure 51 shows, these institutions constitute the overwhelming majority of South Africa's schools.

Figure 59 and Figure 60 give an indication of the success of the Dinaledi programme to date: those schools which have been in the project since 2005 have increased the number of HG maths passes by 26.5% and the number of SG passes by 13.2%. Schools which entered Dinaledi in 2007 exhibit a decline in HG passes by 5.4% and an increase in SG passes by 11.4%. Clearly, it takes time for an initiative of this kind to begin to bite. The project was also hampered in 2007 by the teacher strike, which forced the postponement of the second teacher training in a number of provinces.

Figure 59: Number of HG mathematics passes from 2004 to 2007 for the 371 schools that became Dinaledi Schools in 2005

Year	2004	2005	2006	2007	Change	% Change
HG Math passes	3037	3635	3912	3843	806	26.5%
SG Math passes			18788	21271	2483	13.2%

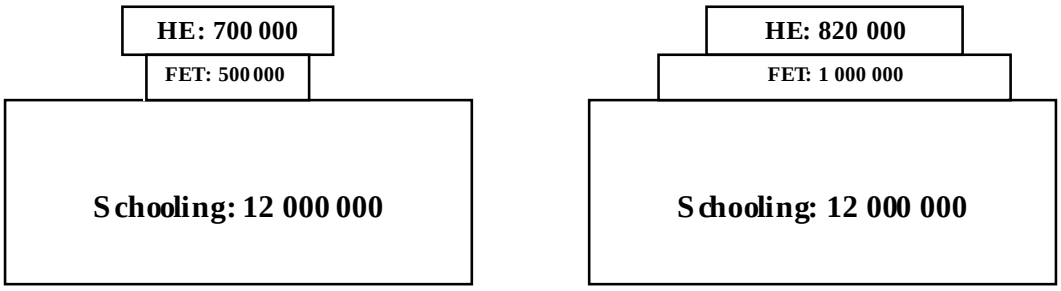
Figure 60: Table Number of HG mathematics passes in 2006 and 2007 for the 117 schools that became Dinaledi Schools in 2007

	2006	2007	Change	% change
HG Math passes	2375	2246	-129	-5.4%
SG Math passes	5558	6194	636	11.4%

It is instructive to note that, of the 488 Dinaledi schools in 2007, only 186 produced more than 10 HG math passes, while 28 had none. In contrast, 250 Dinaledi schools produced more than 50 SG math passes, while 47 of these schools produced more than 100 SG passes. These figures indicate the propensity for South African schools to 'play safe' by attempting to excel at low standards, rather then aiming for higher goals and running the risk of failure. There is every indication that a good proportion of the candidates who obtained SG math passes would have passed at the HG level: the career opportunities of these children have therefore been severely curtailed by the conservative approach adopted by their schools. While the DoE is advising schools to enter a greater proportion of candidates at the HG level, these efforts are achieving less than the desired effects, despite incentives offered by the DoE and the private sector. The slowness of schools to respond to Dinaledi's combination of government directive, increased resources and substantial incentives emphasizes the slow rate of change in even a sample (currently 8%) of high schools, highlighting the enormous task of systemic change.

4.7.4 Further Education and Training

The DoE has started talking about an intergrated Further- and Higher Education sector, in which the present 'hour-glass' structure of enrolments is replaced by a pyramidal shape. This change will be effected by doubling the number of FET students and increasing HE enrolments by some 15% (DoE, 2007b).



Current shape of formal eduction and training system **Proposed shape by 2016**

In addition to gearing up for the massive increase in numbers envisaged by 2016, the DoE is in the process of implementing new curricula directed towards improving the quality and market responsiveness of FET college programmes. Thus, the National Sector Plan for FET in South Africa (DoE, 2007b), backed by new legislation in the shape of the Further Education and Training Colleges Act, (RSA, 2006), sets out a broad plan for the sector, which includes:

National coordination, quality assurance and funding

The establishment of a nationally coordinated FET system, in which curricula and examinations are set and monitored nationally, and linked to funding norms. Colleges are currently controlled by provinces, resulting in wide disparities in quality across colleges.

Establishment of the National Certificate (Vocational)

The NC(V) is intended to train 'artisans for the 21st Century' (DoE, 2007b). The national curricula in 11 priority subjects are of a general vocational nature, designed to support long-term employability and skills development for flexible career change, rather than short-term training for specific jobs. Underpinning these skills are strong language and mathematical competencies, which not only provide the foundation for all other learning, but also ensure flexibility in adapting to new technological developments and modes of work.

26 451 students constituted the first NC(V) cohort in 2007; this is a three year qualification, although students can exit at the end of the first or second years. Pass rates varied from 40.8% in the Eastern Cape to 58.5% in the Western Cape, with a national mean of 51.5%. Pass rates for mathematics and mathematical literacy give cause for concern, at 33.6% and 24.0%, respectively. Again, only once the primary schools begin to provide better foundation skills will throughput rates at the FET level improve significantly, although some efficiency gains may be effected through better teaching on the part of college lecturers.

It is intended that the NC(V) will ultimately replace the old NATED courses, thus improving the skill and cognitive capacities of graduates, and providing skills more closely suited to the needs of industry.

Greater levels of institutional autonomy

Providing colleges with more autonomy will enable them to respond more quickly to local industry needs. Most importantly, colleges will employ their own staff, rather than have these appointed by provincial authorities.

While the National Sector Plan for FET lays out a long-term vision for the sector, it is commensurate with JIPSA's short-term target of producing 50 000 artisans by 2010. Furthermore, the 11 subject areas of the NC(V) accord with JIPSA's priority areas for skills development. However, reaching this target will mean increasing the development of artisans by 150% over the current production of 5 000 pa; this is a tall order for institutions which are struggling to improve the quality of their delivery.

4.7.5 Higher Education

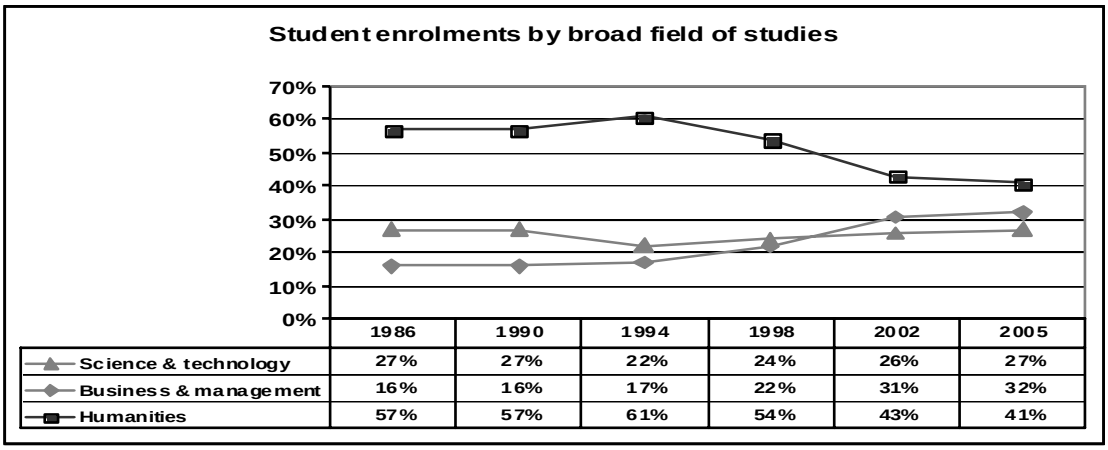
Policy development in the higher education subsector has had something of a chequered history since 1994, prompting Bunting and Cloete (2007) to recognize three distinct reform moments since the establishment of democratic government. In 1996 the National Commission for Higher Education (NCHE) set a target participation rate of 30% by 2005. However, this goal had to be revised as it became clear that such an ambitious target was unattainable: the participation rate in public higher education had actually decreased from 17% in 1996 to 15% in 2000 (Ministry of Education, 2001, 16). Part of the problem with the NCHE's plan was that the school pipeline could not provide quality undergraduates in the numbers required, and part of the problem had to do with the prudent financial climate of the time.

In 2001, the National Policy for Higher Education (NPHE) was published by the Ministry of Education. The NPHE provided the implementation framework for transforming the higher education system. It established indicative targets for the size and shape of the higher education system, including overall growth and participation rates, institutional and programme mixes and equity and efficiency goals (Ministry of Education, 2001). The NPHE set a target participation rate in higher education (enrolment in higher education as a proportion of 20 to 24 year olds in the population) at 20% over a 10 to 15 year period. Nevertheless, in the absence of central steering mechanisms for effecting the recommendations of the NPHE targets, many universities went ahead with rapid expansion between 2000 and 2004, regardless of quality, while the DoE appeared to be looking the other way. Indeed, the attention of the DoE in the period 2003-05 was focused on refashioning the institutional landscape, a process which resulted in a reduction in the number of Higher Education Institutions (HEIs) from 36 to 23.

Around 2004 the DoE began to realise that uncontrolled expansion would not lead to the production of the high level skills increasingly demanded by the economy and began to assert greater levels of control over the system. The first step was an announcement that it was considering capping headcount enrolment in higher education (DoE, 2005b:23). This action was proposed because the higher education system's funding and infrastructure had not kept pace with the rapid growth in student enrolment; the system's output performance remained below the targets that had been set in the NPHE; and dropout rates were high indicating low levels of efficiency in the system. The Department subsequently decided that the capping of enrolment for funding purposes would occur in 2005 and 2006, but for the period 2007 to 2009 the funded head count and Full Time Equivalent (FTE) student total for each university would be decided through 'bilateral discussions' between the Ministry of Education and each higher education institution (Ministerial Statement on Student Enrolment Planning, undated).

The DoE now appears to be working to a medium-term plan, which is characterised by modest expansion on an institution-by-institution basis, in identified fields, notably science and technology, improved throughput rates, and real increases in funding. By 2010 the enrolment target is expected to grow to 820 000 students, while throughput rates are targeted to improve from the 2005 mean of 71% to 77%, resulting in the graduation of 150 000 students in 2010 (DoE, 2007a). Furthermore, the DoE aims to shift the balance of enrolments between broad fields of study, in order to increase the proportion of students in science and technology to 30% by 2010, accompanied by a reduction to 37% in those studying humanities, and an increase in those registered for courses in business and management to 33%. Trends in student numbers in these three fields would indicate that the DoE targets are attainable (Figure 61).

Figure 61: Student headcount by field of study, 1986-2005



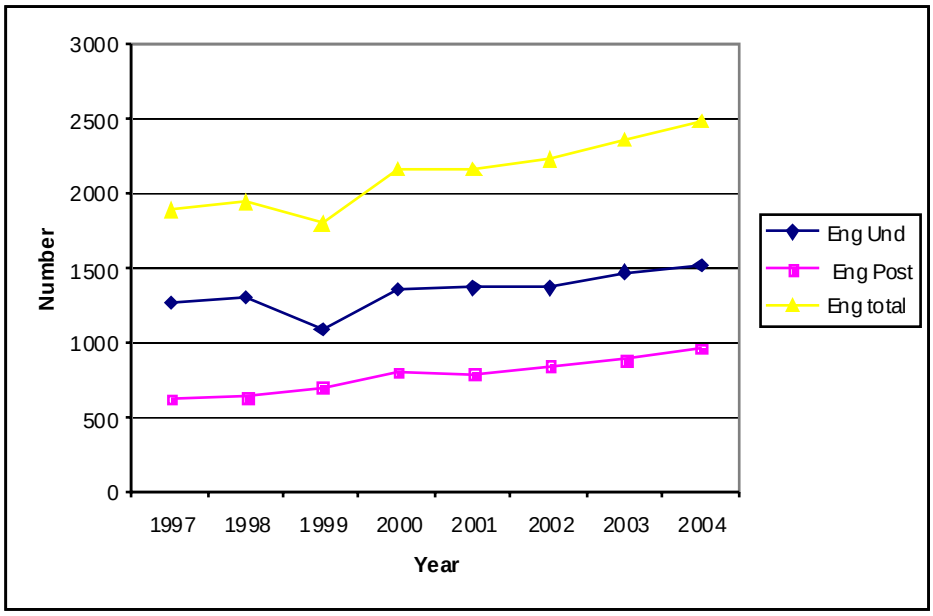
	1986	1990	1994	1998	2002	2005
Science & technology	27%	27%	22%	24%	26%	27%
Business & management	16%	16%	17%	22%	31%	32%
Humanities	57%	57%	61%	54%	43%	41%

Source: Bunting and Cloete, (2007)

Nevertheless, while there has been some redirection of enrolment towards Science Engineering and Technology (SET) since 1994, the production of advanced skills remains a problem. An example of this is engineering. Although there has been a steady increase in the number of engineers graduating from universities (excluding universities of technology) (see Figure 62), the average annual growth rate has amounted to only 3%

between 1997 and 2004. JIPSA's requirement that the number of engineering graduates increase by 1 000 a year, was based on graduation statistics of 2004 when just over 1 500 engineers graduated from undergraduate professional degrees (Lawless et al , 2006). An increase of 1 000 engineering graduates a year means that universities will have to increase their output by 66%. In fact 1 000 additional engineering graduates a year might not be sufficient: Lawless et al (2006) state that 'given the planned 6% sustained growth, the worldwide shortage of engineering skills, the significant number of retirements expected over the next five to ten years and globalisation', the 1 000 additional engineering graduates should be seen as a 'starting target' for increased engineering graduates and that the country should aim to graduate at least 3 000 to 4 000 in the medium term. In addition to the extra engineers required, 'an increase in graduates in architecture of some 30-35 percent is required and quantity surveyors need to increase by at least 65 percent, to keep pace with the long term construction phase expected'.

Figure 62: Engineering graduates at universities (excluding universities of technology), 1997 to 2004



Source: Department of Education HEMIS, supplied 16/5/2007

The DoE targets are supported by real increases in funding for the higher education subsector. In March 2007, the Minister announced a special grant of R4bn over 3 years to enable institutions to improve their infrastructure, while the 2007/08 budget provides for an increase of 12.8% in the higher education sector allocation, from R13.3 in 2007/08 to R15bn, while investment in both FET and HE is further boosted by increasing funds to the National Student Financial Aid Scheme by 20% pa to reach R2.3bn by 2010 (Manuel, 2008).

4.7.6 Professionalisation of the civil service

The importance accorded the task of improving the effectiveness of the system by central government is indicated by fact that cabinet has taken charge of directing the

development of the education bureaucracy, as part of a larger process of strengthening the civil service. An investigation commissioned in 2004 by the Minister for the Public Service and Administration found that lower-skilled workers comprised half of public sector employment, while semi-skilled workers made up 40%. Managers and skilled personnel made up just 2% and 8%, respectively.

This analysis raised doubts as to whether the balance of skilled personnel was commensurate with the skills profile required by a developmental state. Skills shortages are manifested in difficulties in filling vacant posts and are found in certain occupational categories. Financial and computer skills were most needed, while literacy skills and skills for managing projects, human resources and communication are all required. Skills gaps include transversal skills ('hard' skills like project management skills or 'soft' skills like conflict management or communication skills) and specific skills associated with particular job profiles or occupational categories.

A cabinet legotla in June 2006 laid out a structured activity plan for improving this situation. This includes standardising job descriptions for officials at all levels of the system, instituting capacity building programmes, streamlining the quality management system and analysing and, where necessary, revising salary structures. Although the targets set by the cabinet process have already proved too ambitious (hampered by the continued deadlock between government and the unions on the Occupation Specific Salary Dispensation), there is no doubt that this process is on the right track, and already the effects are being felt in some provinces: for example, Limpopo appointed 800 district-level subject advisors in the second quarter of 2007.

However, there is a very long way to go on this issue and a long-term commitment by central government to improving the capacity of all ten departments of education is required if significant efficiency gains are to be achieved. In the meantime, until such gains begin to be felt throughout the system, all efforts aimed at improving the quality of schooling are likely to experience less than optimal impact.

4.7.7 Pro-poor initiatives

The Quality Improvement, Development, Support and Upliftment Programme (QIDS-UP) is based on the assumption that a lack of resources is a major determinant of underachievement for the majority of schools in the country, and that they do not have the minimum resources required to make quality learning possible. QIDS-UP was launched in 2006, and just over R2 billion has been allocated to the programme over the 2007/08 period. The idea is to provide between R75 000 and R100 000 to each school specifically for books and other resources such as toys focusing on primary schools.

In her 2007 budget speech the Minister (Pandor, 2007) noted that "the programme was not given the attention we had anticipated in provincial budgets last year. As honourable colleagues are aware provinces determine their own allocations and while we may agree priority areas they are not always funded. However, this year the improvement strategy will be supported and acted upon in all provinces". Whether provinces are able to keep to

these goals in the face of the management problems noted above remains to be seen. However, past experience does not provide a good prognosis.

A second very significant area of pro-poor support to schools is the no-fee schools policy initiated in 2006. In that year 20% of the poorest schools were declared no-fee schools, and this was increased to 40% in 2007. Here too the Minister noted implementation difficulties in her 2007 budget speech.

Both of these programmes received a boost in April 2008 when the DOE announced the allocation of R1bn to be spent in 2008/09 on providing 14 000 additional support staff posts for the poorest schools (Mohlala, 2008).

The DOE is in something of a Catch 22 situation regarding very poor schools. On one hand, it would seem churlish to quibble with the idea of allocating additional resources to these schools, and there is a case to be made that, however poorly they may be managed, providing them with resources will alleviate the conditions of grinding poverty under which their teachers and learners labour. However, on the other hand, it is becoming increasingly clear that these resources will have little effects on the quality of teaching and learning unless they are effectively managed. In order to hold schools accountable for using these resources effectively, provinces are in the process of instituting testing programmes in their quintile 1 and 2 schools, and it will be interesting to see whether learner performance is improved in these schools in the medium term.

CHAPTER 5: Conclusion

Our review of the education sector since 1994 makes it clear that the foremost challenge facing the sector is not the problem of access to schooling or even access to post-secondary education. Equity is still a major concern, but for reasons we have outlined, it is not the core concern in the sector at present. Most children are enrolled in school, and a very substantial portion complete primary school and transition to secondary schools. There is however the need to look closely at the implications of early exit and transitions within the secondary school system.

While access is not the principle problem in South Africa at present, quality certainly is. Quality is a problem from primary schooling all the way to higher education. Its clearest indicators are the comparative achievement in literacy and numeracy at the end of primary schooling, the low number of candidates, particularly African, that successfully complete higher levels of mathematics and science at secondary schools, and the low enrolment and throughput rates at both FET and higher education institutions. The problem is evident not only for schools serving the poorest of the poor, but even those institutions that provide education for the richest twenty percent of learners are not competitive with counterparts in the rest of the world, and even with contemporaries in other parts of the continent such as Kenya and Mauritius. Crouch and Patel (forthcoming) point out that, while inputs to education are far more equally distributed than income across the population – signaling the intent of the system to move towards income equality, through the provision of educational opportunities – the outputs of education are far more unequally distributed than the inputs. The latter problem indicates very high levels of inefficiency in the system.

What accounts for the systemic weaknesses of quality provision in the sector? Our analysis reveals that a range of factors contribute to the problem. The rapid growth of access is one factor: the dramatic expansion of the system in the eighties and nineties means that insufficient time was available to develop deep and rigorous skills in newly developed areas in the sector. This is not to be critical of the expansion of schooling and other educational opportunities for poor children but to signal a need to shift the balance of attention from access to success. This is also not to argue for a neglect of what Crouch and Patel (forthcoming) call the 'rights agenda' – dealing with equity issues such as expenditure on the infrastructure of poor schools – but to argue for a significantly increased focus on the 'skills agenda', through improving the quality of the system. In the short term at least an increased differentiation of the system is inevitable if high level skills are to be produced in sufficient numbers to feed the country's appetite for growth.

The problem of systemic inefficiency continues in the absence of strategic leadership and management weaknesses across the sector. At the national level there were a proliferation of unfunded policy mandates for much of the first decade of democratic government, and a number of ineffective programme interventions. Provinces continue to be plagued by problems of poor planning, misallocation and underspending of budgets. At school level, many institutions continue to have problems of poor internal

management such as teacher absenteeism, inefficient use of time in class, and ineffective teaching methods. Lack of planning skills, internal controls and human resource management capacity exacerbate problems exogenous to the sector. Weaknesses specific to key agents in the sector, that is teachers, may be the significant factor contributing to poor quality. There is mounting evidence of the enduring weaknesses of teachers skills linked to the core business of teaching and learning.

To what extent does finance account for the problems of quality across the sector? Initial indications suggested that finance, specifically per capita expenditure, is not a major factor driving poor quality of the system. The reason for this assessment is the relatively high levels of public expenditure as a proportion of overall state funds and of gross national product. However, a closer assessment reveals that during a period of rapid transition during which the state was developing numerous and extensive policy interventions, real levels of funding declined. We would suggest that funding, while not a guarantee of education improvement, is a necessary condition. Put another way, while additional funding may not improve the quality, without it, it would be almost impossible to improve the system forward.

What is therefore required is both new levels of funding and close attention to improving the core business across all levels of the system. It would seem that the Treasury is keeping its side of this two-pronged strategy, with the announcement of a real increase in education spending in the 2008/09 budget, an increase of 15% in the education budget, from R105bn to R120bn. Although inflation has been on the increase, the lift in spending is in the order of twice the inflation rate. Furthermore, education continues to receive the largest share of the budget, at 19% of the R631.5bn total. The Minister stressed that 'education is central to our objective of broadening opportunity and fighting poverty'. (Manuel, 2008: 11). However, there is great concern about the ability of provinces to use these increased funds any more effectively than they use their current budgets.

Improving the quality of primary schooling, and of literacy and numeracy competence in particular, is a prerequisite to effecting quality gains on a long-term basis in secondary schooling, FET colleges and universities. Achieving such improvements will involve addressing issues of both institutional functionality, through tighter management systems, and of teacher capacity. Striking an accord with teacher unions on issues of individual conduct and professional development would assist in the achievement of both priorities. Teacher capacity is central to improving the quality of schooling at all levels (Barber and Mourshed, 2007), and it is clear that South African teachers require a great deal of professional development. If teachers and the DoE are not singing from the same hymn sheet, the proposed Foundations for Learning Campaign is unlikely to take off with any fervour. Furthermore, any programme of this kind is crucially dependent on adequate funding over an extended period (5-10 years), expert support to teachers in their classrooms, and good materials. A study of the successful English National Literacy and Numeracy Strategies would be instructive, as would extensive piloting and evaluation in all provinces before the initiative is taken to scale.

Growth in good preschool programmes will improve learning in primary schools, but there is a great concern that the DoE is expanding Grade R provision too rapidly, without adequate teacher preparation, and without establishing the requirements for effective preschool classes through a well researched pilot and careful rollout plan. We have argued that the too-rapid expansion of primary schools in the closing decades of the last century is implicated in the poor quality of South Africa's primary schools, and it would appear that the DoE is set to replicate this mistake in the preschool subsector. The same can be said for ABET and adult literacy: 20 years of experimentation by NGOs and government alike has not produced many successes and none on any scale, yet over R6bn is being poured into an untried and untested national programme.

The National Maths, Science and Technology Strategy of the DoE (DoE, 2001) is unlikely to achieve its target of doubling the number of Senior Certificate maths and science passes between 2004 and 2008, due to systemic inertia and the consequent slow pace of implementing any new measure. Even though the DoE is attempting to circumvent inefficient provincial DoEs, through its Dinaledi project, the programme is still dependent on key functions of the provincial bodies, such as delivery of textbooks, the maintenance of infrastructure and the procurement of resources, including teachers. Thus, Dinaledi is proceeding more slowly than had been planned. Nevertheless, progress is being made, against calls to include more schools in the project and to allocate higher levels of DoE management and administrative support and private sector funding to project schools (CDE, 2007). It may be argued in some quarters that the differentiated approach to secondary schools adopted by Dinaledi cannot be justified in the face of government's equity agenda. The counter-argument is two-fold. First, the country's crippling skills shortage cannot be addressed without initiatives such as Dinaledi, aimed at providing a significant boost to the intermediate and high-level HR needs in the short term. The second line of argument in defence of a differentiated approach is that Dinaledi schools will provide role models for other schools to follow, and indeed, the expansion of the programme in the last two years indicates that this strategy may be bearing some fruit.

In the FET sub-sector, the move to centralise the funding, quality assurance and administration functions of FET colleges in the DoE, while at the same time providing greater autonomy to colleges, is likely to lead to a more efficient and more responsive production of skills. The move towards a new curriculum which is vocationally oriented (rather than focusing on a single vocational skill), in the interests of producing more intelligent and hence more productive and adaptable artisans and technicians, is in line with trends in industrialised countries over the last decade. In addition, the DoE has committed itself to piloting and establishing student support functions on all college campuses offering the NC(V), in order to promote academic development, career guidance, financial assistance and advice on HIV/AIDS (DoE, 2007b). These measures may well go a long way to achieving the JIPSA target of 50 000 artisans by 2010, although the graduates of NC(V) programmes are unlikely to have the on-the-job skills of the old apprentices, and workplace training will probably be necessary before these graduates begin to provide a useful return on the investment in their training. Key to achieving the objectives of the revitalised FET college sector will be to address the capacity issues with which colleges are struggling. Attention needs to be given to

improving the managerial skills of college leaders and the subject competence and teaching skills of lecturers. Intensive training of college staff is essential, whether provided by universities, industry trainers, or in partnership with countries which exhibit high levels of technical education.

Universities are key to the production of high level technical, professional and managerial expertise. The sub-sector has been neglected in the recent past and a real increase in the HE budget for 2008/09 is a welcome boost to the sub-sector, facing a host of challenges, including JIPSAs very ambitious targets for increases in graduate engineers and built environment professionals, and the need for greater numbers of teachers with higher levels of subject expertise. This is the sub-sector that may be most responsive to converting higher funding levels to higher graduate numbers; furthermore, the private sector and professional associations have both indicated their willingness to contribute towards achieving the JIPSA goals. In the last year or more the DoE has begun to set targets for changing the shape and size and improving the quality of the HE sector. Here too, government is beginning to adopt a differentiated approach to expansion where institutional capacity warrants. The biggest risk to the achievement of these goals is the possibility that the school and college sub-sectors are unable to provide sufficient numbers of entrants with the foundation skills required to succeed at tertiary level.

Effecting systemic change in the education sector is a vast enterprise, bedeviled by the size of each sub-sector, a long history of gross under-resourcing of large parts of the system, the heavy dependence of further and higher education on primary schooling, and a flaccid bureaucracy. Systemic change in education is a slow, process measured in decades. If the first dozen years of democratic government were preoccupied with equity issues, then in the next period greater attention must be given to improving efficiency. It is clear that the DoE is lining up the network of levers required to gear the system to higher levels of production – from legislation aimed at making schools more accountable for their outputs, and HR policies directed towards professionalizing the civil service; through targeted programmes to improve the teaching and learning of reading, writing and mathematics; to reorganizing key financial, curriculum and institutional arrangements in high schools, colleges and universities. Success will depend on navigating a path between the political courage required to institute greater levels of differentiation and autonomy at the top end of the system, on one hand, and on the other hand, overcoming the natural aversion in the education sector to basing new programmes on research of what has worked elsewhere, piloting these under local conditions, and monitoring their large scale rollout in a deliberate manner.

References

Akoojee, S., McGrath, S. & Visser, M. (2008). Further Education and Training Colleges. In Kraak, A. and Press, K. (eds.) *Human Resources Development Review 2008: Education, Employment and Skills*, Cape Town: HSRC Press.

Baatjes, I.G. (2008). Adult Basic Education and Training. In Kraak, A. and Press, K. (eds.) *Human Resources Development Review 2008: Education, Employment and Skills. Cape Town:* HSRC Press.

Barber, M. & Mourshed, M. (2007). *How the world's best-performing school systems come out on top*. New York: McKinsey.

Blaine, S. (2007a). Pandor Acts on Shock Reading Figures. *Business Day*, 3 December, 2007.

Blaine, S. (2007b). Pandor to Set Up Literacy Task Team. *Business Day*, 7 December, 2007.

Blaine, S. (2008). Provinces Spend Only 25% of Library Grant. *Business Day*, 25 January.

Bot, M. & Shindler, J. (1997) *Education 2000 Plus Macro Indicators*. Johannesburg: Centre for Education Policy Development (CEPD)

Breier, M. & Mabizela, M. (2008). Higher Education. In Kraak, A. and Press, K. (eds.) *Human Resources Development Review 2008: Education, Employment and Skills*. Cape Town: HSRC Press.

Bunting, I. & Cloete, N. (2007). Project on Governing Access to Higher Education. Country report: South Africa. Mimeo

Case, A. & Ardington, C. (2004). The Impact of Parental Death on School Enrolment and Achievement: Longitudinal Evidence from South Africa. CSSR Working Paper no. 97. Cape Town: University of Cape Town, Centre for Social Science Research.

Centre for Development and Enterprise (CDE). (2007). *Doubling for growth: addressing the maths and science challenge in South Africa's schools*. Johannesburg: CDE

Chisholm, L., Hoadley, U., Kivilu, M., Brookes, H., Prinsloo, C., Kgobe, A., Mosia, D., Narsee, H. & Rule, S. (2005). *Educator workload in South Africa*. Cape Town: HSRC Press.

Coombe, C. (2002). Mitigating the Impact of HIV/AIDS on Education Supply, Demand and Quality: A Global Review. Report prepared for Unicef's Innocenti Research Institute, Florence, Italy.

Crouch, L. & Vinjevold, P. (2006). South Africa: Access before quality, and what to do now? *Profesorado*, 10 (1).

Department of Education (DoE). (1998a). Age requirements for admission to any ordinary public government school. Government Notice No 2433 of 1998, *Government Gazette no. 19377*. Pretoria: Government Printer.

Department of Education (DoE). (1998b). Admission policy for ordinary public schools.. Government Notice No 2432 of 1998, *Government Gazette no. 19377*. Pretoria: Government Printer

Department of Education. (DoE). (2001). National Strategy for Mathematics, Science and Technology Education in General and Further Education and Training. Pretoria: The Department.

Department of Education (DoE). (2003). Report to the Minister: A Review of the Financing, Resourcing and Costs of Education in Public Schools. Pretoria: The Department.

Department of Education (DoE). (2005a). South Africa's Education Investment: Key Trends and Policy Implications 2005. Version 1:21 September 2005. Unpublished Mimeo

Department of Education (DoE). (2005b). Student Enrolment Planning in Public Higher Education. Pretoria: The Department.

Department of Education (DoE). (2007a). Annual Report 2006/2007. Pretoria: The Department.

Department of Education (DoE). (2007b). National Sector Plan for Further Education and Training in South Africa. Pretoria: The Department.

Department of Education (DoE) (2007c). 2007 School Realities. http://www.education.gov.za/EMIS/emisweb/flyer/DoE%20School%20Realities.pdf (accessed 19 March 2008).

Department of Education (DoE) (2007d) Ministerial Committee on Learner Retention in the South African Schooling System: Progress report to the Minister of Education, Mrs GNM Pandor, M.P. Unpublished Report. October.

Department of Education (DoE). (2008a). Teaching Reading in the Early Grades: a Teacher's Handbook. Pretoria: The Department.

Department of Education (DoE). (2008b). National Reading Strategy. Pretoria: The Department.

Du Toit, A. (2007). Higher Education and Social Justice. In Brown S (ed) *Leadership and Legitimacy: 2007 Transformation Audit.* Cape Town: Institute for Justice and Reconciliation

Fiske, E. & Ladd, H. (2004). *Elusive Equity: Educational Reform in Post-apartheid South Africa* Washington: Brookings Institute.

Fleisch, B. (2008). *Primary Education in Crisis: Why South African Schoolchildren Underachieve in Reading and Mathematics*. Cape Town: Juta.

Fleisch, B & Perry, H. (2007). Access, survival and achievement: a study of the impact of participation on levels of academic performance in SACMEQ II. Johannesburg: University of the Witwatersrand. Mimeo.

Fleisch, B. & Woolman, S. (2004). On the Constitutionality of School Fees: a reply to Roithmayr. *Perspectives in Education*, 22(1):111-123.

Gustafsson, M. (2005). The Relationships Between Schooling Inputs and Outputs in South Africa.: Methodologies and Policy Recommendations based on the 2000 SACMEQ dataset. Downloaded at http://www.sacmeq.org/links.htm.

Hawes, H. (1983). 'Once more unto the breach dear friends.' *The International Review of Education, 29*. 133-137. Hamburg: Unesco Institute for Education and The Hague: Martinus Nijhoff Publishers

Howie, S. (2001). *Mathematics and Science Performance in Grade 8 in South Africa 1998/1999*. Pretoria: Human Sciences Research Council.

Howie, S., Venter, E., van Staden, S., Zimmerman, L., Long C., Scherman, V., Archer E. (2007). PIRLS 2006 summary report: South African children's reading achievement. Pretoria: University of Pretoria. Centre for Evaluation and Assessment.

Joint Initiative on Priority Skills Acquisition (JIPSA). (undated). Unpublished report on increasing the supply of engineers and built environment professionals, technologists and technicians.

Lawless, A., Reay, C., & Shaw, C (2006). Increased Engineering Graduations, November 2006. Unpublished Mimeo.

Lewis, C. & Bot, M. (2001). A Tertiary Update October 2000 – September 2001. *EduSource Data News* No35/December 2001.

Manuel, T. (2008). Budget Speech, Minister of Finance. Cape Town: Parliament of South Africa, 20 February, downloaded at www.treasury.gov.za, 28 Feb 2008.

Machobane, R. & Pereira, C. (2008). Teacher Content Knowledge Improvement (Result 1). Presentation to the Integrated Education Programme Conference, 2008.

Ministry of Education. (2001). National Plan for Higher Education in South Africa. Pretoria: The Ministry. Retrieved 14 May 2007 from http://www.education.gov.za/dynamic/dynamic.aspx?pageid=326&dirid=12

Ministry of Education. (2007). National literacy campaign on Track. Media statement issued on 23 November 2007. Pretoria: The Ministry.

Moloi, M. & Strauss, J. (2005). A Study of the Conditions of Schooling and the Quality of Education. South Africa Working Report. Harare and Pretoria: SACMEQ and the Ministry of Education.

Motala, S. (2006). Education Resourcing in Post-apartheid South Africa: The Impact of Finance Equity Reforms in Public Schooling. *Perspectives in Education* 24(2)2: 79-93

Motala S., Dieltiens, V., Carrim, N., Kgobe, P., Moyo, G. & Rembe, S. (2007). Educational Access in South Africa: An Analytical Review. Working draft. June 2007. Consortium for Research on Educational Access, Transitions and Equity (Create).

Narsee, H. (2008). Department of Education presentation of community survey 31/1/08. Unpublished.

Northern Ireland Statistics and Research Agency. (2005). Participation in Full-Time Education by 16 and 17 Year Olds in Northern Ireland 2004/05. Statistical Press 13 September 2005. Retrieved 12 February 2008 from http://archive.nics.gov.uk/el/time_education.pdf

Pandor, N. (2007). Speech by Naledi Pandor, MP, Minister of Education, introducing the debate on the education budget, vote 15, National Assembly.

Patel, F & Crouch, L (forthcoming) South African Education Investment: A Rights or Skills Agenda? In Bloch, L, Chisholm, L & Fleisch, B (eds.) Investment Choices for South African Education. Johannesburg. University of the Witwatersrand Press.

Perry, H. & Arends F. (2004). Public Schooling. In: Kraak, A. (ed) *Human Resources Development Review 2003: Education, employment and Skills In South Africa*. Cape Town: HSRC Press.

Porteus, K., Clacherty, G. & Mdiya, L. (2000). *Understanding Out-of-school Children and Out-of-age Learners in the Context of Urban Poverty in South Africa*. Johannesburg: Vuk'uyithathe Research Consortium.

Ray, M. (2008). Educashen crysis. *Finweek*. 7 February 2008

Reddy, V. (2006). *Mathematics and Science Achievement at South African Schools in TIMSS 2003*. Pretoria: Human Sciences Research Council.

Republic of South Africa (RSA). (1996a). Constitution of the Republic of South Africa. Pretoria: Government Printing Works.

Republic of South Africa (RSA). (1996b). South African Schools Act, No. 84 of 1996. Pretoria: Government Printing Works

Republic of South Africa (RSA). (2002). Education Laws Amendment Act, No. 50 of 2002. Cape Town: Government Printing Works

Republic of South Africa (RSA). (2006) Further Education and Training Colleges Act, No. 16, of 2006. Cape Town: Government Printing Works.

Republic of South Africa. (RSA). (2007). Education Laws Amendment Act, No. 31 of 2007. Pretoria; Government Printing Works.

Shindler, J. (2005). *Access to and Participation in Education in South Africa: A Quantitative analysis*. M Ed Research Report. Johannesburg: University of the Witwatersrand.

Shindler, J. & Beard, S. (2001). An Analysis of the 2000 Senior Certificate Examination. *EduSource Data News* No32/March 2001.

Shindler, J. & Fleisch, B. (2007). Schooling for All in South Africa: Closing the Gap. *International Review of Education* 53: 135-157.

Simkins, C. (2002). The Jagged Tear: Human capital, Education and AIDS in South Africa, 2002-2010. CDE Focus, 7 March. Johannesburg: Centre for Development and Enterprise.

Taylor, N. (2007). Equity, efficiency and the development of South African schools. In Townsend, T (ed.) *International Handbook of School Effectiveness and Improvement*. Dordrecht: Springer.

Taylor,N. & Moyana, J. (2005). Khanyisa Education Support Programme: Baseline study part 1: Communities, Schools and Classrooms. Mimeo

Umalusi. (2007). *The F-word*. Pretoria: Umalusi.

United Nations Educational, Scientific and Cultural Organisation (UNESCO). (2005). *Education for All: Literacy for Life. EFA Global Monitoring Report 2006*. Paris: Unesco Publishing

United Nations Educational, Scientific and Cultural Organisation (UNESCO). (2006). *Strong Foundations: Early Childhood Care and Education. EFA Global Monitoring Report 2007*. Paris: UNESCO

Van der Berg, S. (2001) Resource Shifts in South African Schools After the Political Transition. *Development Southern Africa* 18(4): 406–22.

Van der Berg, S. (2005). How Effective are Poor Schools? Poverty and Educational Outcomes in South Africa. Available at: www. sacmeq.org/images/mapsml.gif

Van der Berg, S., Burger, R, & Yu, D. (2005). Determinants of Education Quality: A report on the Western Cape Primary School Pupil survey 2003. Mimeo.

Van der Berg, S. & Louw, M. (2006a). Unravelling the Mystery: Understanding South African Schooling Outcomes in Regional Context. Paper to the conference of the Centre for the Study of African Economies, Oxford University.

Van der Berg, S. & Louw, M. (2006b). Lessons learnt from SACMEQII: South African Student Performance in Regional Context. Paper to a conference, Development Bank of Southern Africa.

Vass, J. (2008). The Impact of HIV/AIDS. In Kraak, A and Press, K (eds.) *Human Resource Development Review 2008: Education, Employment and Skills*. Cape Town: HSRC Press.

Western Cape Education Department (WCED). (2004). Grade Six Learner Assessment Study 2004: Final Report. Cape Town: The Department.
Western Cape Education Department (WCED). (2006). Literacy and Numeracy Strategy 2006-2016. Cape Town: The Department.

Wildeman, R. (2006). A Review of National and Provincial Education Budgets, 2006. Occasional Paper. IDASA Economic Governance Programme, 28 June 2006. Cape Town: IDASA

Wildeman, R. (2007). Public Expenditure on Education. In Kraak, A. & Press, K. (eds.) *Human Resources Development Review 2008: Education, Employment and Skills*, Cape Town: HSRC Press.

Williams, P. R. C. (1983). 'The last ten percent'. *The International Review of Education, 29*. 159-163. Hamburg: Unesco Institute for Education and The Hague: Martinus Nijhoff Publishers.

Unesco Institute for (2004). Gross Enrolment Ratio. Retrieved 17 June 2004 from http://www.uis.unesco.org/statsen/statistics/indicators/i_pages/indspec/tecspe_ger.htm.

Glossary

ABET	Adult basic education and training
CED	Cape Education Department

DET	Department of Education and Training
DoE	Department of Education
EBEPTT	Engineers & built environment professionals, technologists & technicians
ECD	Early childhood development
FET	Further education and training
FTE	Full time equivalent
GER	Gross enrolment ratio
GET	General education and training
HE	Higher education
HEIs	Higher Education Institutions
HEMIS	Higher Education Management Information Systems
HG	Higher grade
HOA	House of Assembly
HOR	House of Representatives
JIPSA	Joint Initiative on Priority Skills Acquisition
NC(V)	National Certificate (Vocational)
NCHE	National Council for higher Education
NER	Net enrolment rates
NPHE	National Plan for Higher Education
PIRLS	Progress in International Reading Literacy Study
POS	Public ordinary schools
SACMEQ	Southern & Eastern Africa Consortium for Monitoring Educational Quality
SC	Senior certificate
SES	Socio- economic status
SET	Science engineering & technology
SG	Standard grade
TIMSS	Trends in International Mathematics and Science Study
WCED	Western Cape Education Department