

Factors Affecting Teaching and Learning in South African Public Schools

Makola Collin Phurutse PhD

Report presented to the
Education Labour Relations Council



Report prepared by a research consortium
comprising the Human Sciences Research Council
and the Medical Research Council of South Africa



HUMAN SCIENCES
RESEARCH COUNCIL



Prepared for the Education Labour Relations Council
by a research consortium comprising
the Social Aspects of HIV/AIDS and Health Research Programme of the
Human Sciences Research Council and the Medical Research Council

Published by HSRC Press
Private Bag X9182, Cape Town, 8000, South Africa
www.hsrcpress.ac.za

© 2005 Education Labour Relations Council

First published 2005

All rights reserved. No part of this book may be reprinted or reproduced
or utilised in any form or by any electronic, mechanical, or other means,
including photocopying and recording, or in any information storage or
retrieval system, without permission in writing from the Education Labour
Relations Council.

ISBN 0-7969-2111-3

Copy-editing by Laurie Rose-Innes
Typeset by Christabel Hardacre
Cover design by Jenny Young
Print management by comPress

Distributed in Africa by Blue Weaver Marketing and Distribution
PO Box 30370, Tokai, Cape Town, 7966, South Africa
Tel: +27 +21 701-4477
Fax: +27 +21 701-7302
email: orders@blueweaver.co.za

Distributed worldwide, except Africa, by Independent Publishers Group
814 North Franklin Street, Chicago, IL 60610, USA
www.ipgbook.com
To order, call toll-free: 1-800-888-4741
All other enquiries, Tel: +1 +312-337-0747
Fax: +1 +312-337-5985
email: Frontdesk@ipgbook.com

CONTENTS



	LIST OF TABLES AND FIGURES	IV
1.	INTRODUCTION	1
2.	METHODOLOGY	2
3.	KEY FINDINGS	3
	3.1 Factors outside the classroom	3
	3.1.1 Resource base of schools by province	3
	3.2 Factors within the classroom	5
	3.2.1 Class size (educator-learner ratio)	5
	3.2.2 Formal contact hours by province	8
4.	SCHOOL PERFORMANCE	10
5.	DISCUSSION	13
6.	RECOMMENDATIONS	19
	REFERENCES	20



LIST OF TABLES AND FIGURES

Table 3.1:	Educator-school ratio by source of payment	4
Table 3.2:	Class sizes by district	7
Table 4.1:	Matric results by district	11
Figure 3.1:	Mean annual school fees	3
Figure 3.2:	School-learner enrolment by province	4
Figure 3.3:	Class sizes as reported by educators	5
Figure 3.4:	Class sizes by geographic location	6
Figure 3.5:	Class sizes by race	6
Figure 3.6:	Formal contact hours by province	8
Figure 3.7:	Formal contact hours by location of institution	9
Figure 3.8:	Formal contact hours by race	9
Figure 4.1:	Matric results by province	10



I. INTRODUCTION

This report examines factors at the school level that affect teaching and learning. The analysis that follows points to the critical importance of viewing the prevalence of HIV/AIDS among educators in relation to the factors that impact on teaching and learning. Analysing the extent and severity of HIV/AIDS among educators without looking at the overall teaching and learning environment in schools provides a partial understanding of the immense educational challenges that the schooling sector faces. The central argument that runs through this study is that the analysis of HIV/AIDS among educators should be linked to the material conditions in schools, given the history of differential educational provision where some sectors of the population (particularly black people in rural areas) have been neglected (Graaf 1991).

The main objective of this study was to examine the material conditions in which the sampled educators work in relation to the prevalence of HIV/AIDS among educators. The following key questions were investigated:

- What are the typical characteristics of the schools in which the educators work?
- Is there variation between and within provinces?
- What possible interventions can be proposed for addressing the problems identified?



2. METHODOLOGY

The data upon which this report is based were derived mainly from educator and institutional questionnaires, the latter completed by principals. The Education Labour Relations Council study included an instrument on conditions in schools, such as total number of learners and educators, average class size, formal contact hours with learners (time on task), school fees, the quantity and quality of pass rates in Grade 12 (matric) and a host of other factors – all aimed at giving a sense of the conditions in which educators work.

The sample consisted of three types of institution: (a) primary schools (b) secondary/high schools (c) combined/intermediate schools and (d) special schools. It comprised 11 463 primary school educators, 7 275 secondary/high school educators, 1 719 educators from combined schools, and 31 educators from special schools. In total, 20 488 educators were reached. The educators were drawn from a wide spectrum of learning areas:

- Languages;
- Arts and Culture;
- Economics and Management Science;
- Life Orientation;
- Mathematics;
- Natural Sciences; and
- Social Sciences.

This report adopts the following structure. Firstly, issues external to the classroom that have a major impact on overall school performance, such as shortage of funds, are discussed. Secondly, issues within the classroom environment, such as educator-learner ratios or class sizes and formal contact hours (time on task), are analysed. Thirdly, attention is paid to school performance as illustrated by matric results over a three-year period (2001–2003). Finally, the data are located within the literature, and some concluding remarks are offered.

In the analysis that follows, the three types of institution (primary, secondary and combined schools) have been integrated, as in most cases disaggregation according to school type did not produce significant differences. This is not to deny such differences but rather to report on major areas cutting across school types.

3. KEY FINDINGS



3.1 Factors outside the classroom

3.1.1 Resource base of schools by province

The data upon which this section is based were taken from the institutional questionnaire, which was completed by principals. Figure 3.1 gives a profile of the provinces' average annual school fees. The results show that there are major variations in the mean annual school fees, with the Free State charging the least and Gauteng charging the most. The Western Cape and Northern Cape have higher average annual school fees compared with the Eastern Cape, Kwa-Zulu Natal (KZN) and Mpumalanga.

Figure 3.1: Mean annual school fees



What is interesting to note is that the three provinces with the highest annual school fees have relatively low HIV/AIDS prevalence, less than 6 per cent, whereas the three provinces with the lowest school fees have an HIV/AIDS prevalence of more than 13 per cent, with KZN at 21.72 per cent. This interpretation is not to suggest a link between school fees and HIV/AIDS status but rather to indicate that a serious educational challenge exists if those schools with a high incidence of HIV/AIDS have poor financial resources. Learners in such schools are doubly disadvantaged.

An analysis of average annual school fees by geographic location (urban-formal, urban-informal and non-urban) and type of school (primary or secondary) revealed no significant differences.

Average number of learners by province

An analysis of the average number of learners by province indicates no significant increase in the three-year period for schools that supplied the relevant information. Increases range from 1 per cent to 3 per cent. The province with the highest number of learners per school is Gauteng. It is followed by Mpumalanga and KwaZulu-Natal. The Free State and North West have fewer learners per school compared with Gauteng, Mpumalanga and KwaZulu-Natal.

FACTORS AFFECTING TEACHING AND LEARNING

Figure 3.2: School-learner enrolment by province



Table 3.1: Educator-school ratio by source of payment

Province	Source	Year		
		2001	2002	2003
Western Cape	Government	17	17	16.9
	School governing body	4	4.1	4
Eastern Cape	Government	12.2	12.1	12.5
	School governing body	4.8	4.1	4.1
Northern Cape	Government	12.3	12.9	12.6
	School governing body	5.3	4.9	5.3
Free State	Government	9.1	9.1	9.3
	School governing body	3	3	3.1
KwaZulu-Natal	Government	12	11.9	11.9
	School governing body	3	3	3.3
North West	Government	12.1	12.1	12.1
	School governing body	4.6	4.2	4.5
Gauteng	Government	23.3	24.9	25.6
	School governing body	5.7	6	5.9
Mpumalanga	Government	13.2	13.4	13.8
	School governing body	3.8	3.9	3.6
Limpopo	Government	12.9	12.6	15.3
	School governing body	4.4	4.7	4.6

KEY FINDINGS

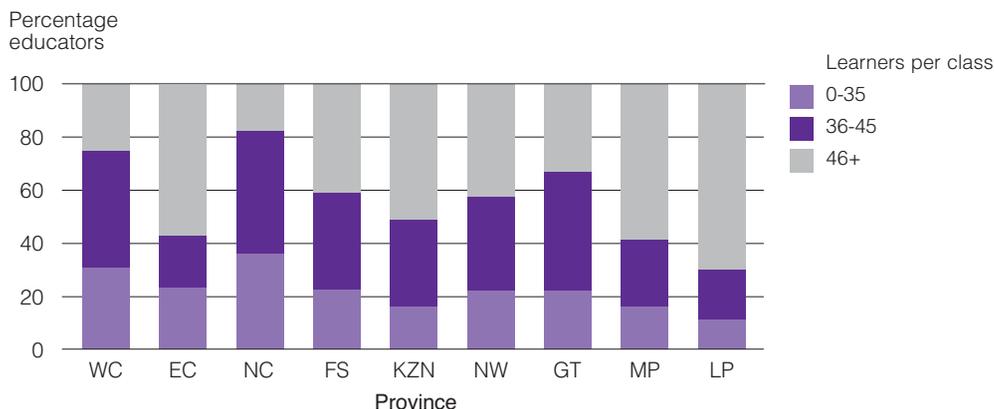
Table 3.1 indicates that school governing bodies (SGBs) pay for about 5 per cent of educators in all the provinces. The contribution of parents, in the form of creating teaching posts paid for entirely with funds raised by the schools, needs to be acknowledged, especially as it helps to ease the financial burden on the Department of Education. This enables the department to direct money saved from the budget for educators' salaries to other areas of need within the education system.

3.2 Factors within the classroom

3.2.1 Class size (educator-learner ratio)

In this study, educators were asked about the average number of learners in the classes they taught from 2001 to 2003. Figure 3.3 indicates that the province with the largest class size is Limpopo. Almost 70 per cent of the sampled educators in Limpopo reported teaching classes of about 46 learners. Mpumalanga (followed closely by the Eastern Cape) is the province with the second-largest class size, with 60 per cent of the educators indicating that they teach classes of about 46 learners. In contrast, a large percentage of educators in the Northern Cape and Western Cape indicated that they teach classes of fewer than 35 learners.

Figure 3.3: Class sizes as reported by educators



Class size by geographic location

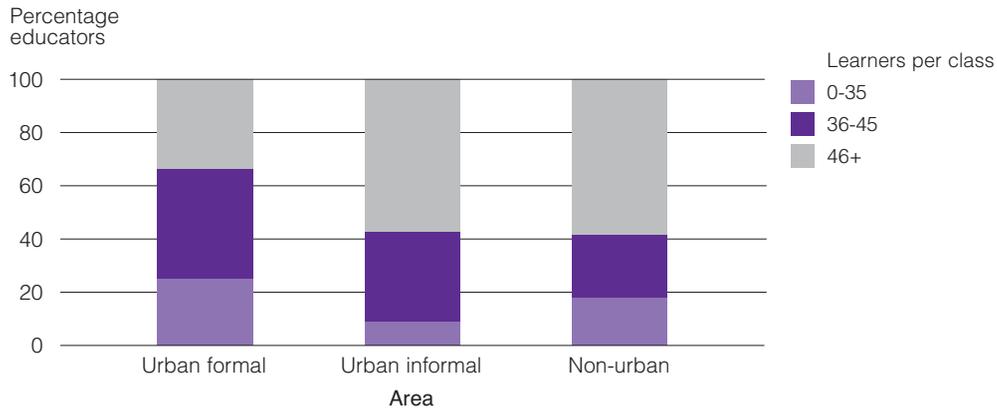
The analysis of the data on class size was also done according to geographic location to ascertain whether there are significant differences between the settlement types. It emerged that 60 per cent of rural educators reported teaching classes with more than 46 learners. The figure for educators in urban informal settlements was almost the same at 58.31 per cent.

The race factor

Given the history of apartheid education in which black people received the poorest quality of education, it is important to investigate how the issue of race is being addressed in the new dispensation. What progress is being made to narrow the huge

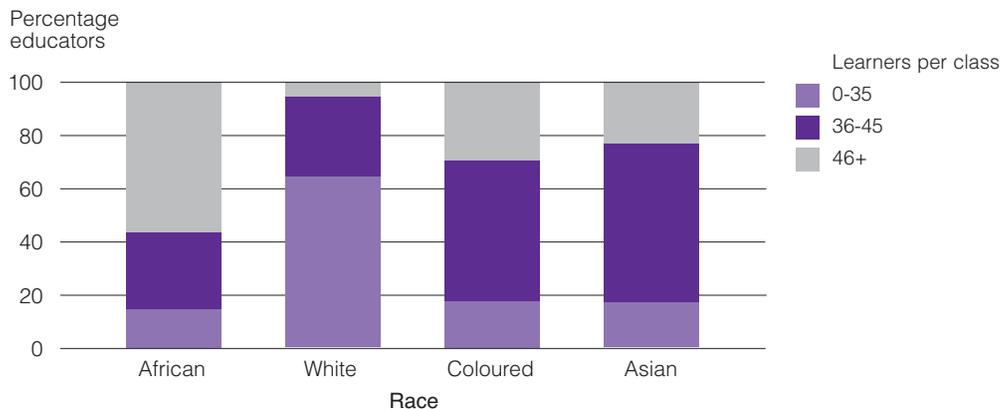
FACTORS AFFECTING TEACHING AND LEARNING

Figure 3.4: Class sizes by geographic location



racial disparities in education? The analysis contained in Figure 3.5 suggests that 58 per cent of African educators are responsible for classes of about 46 learners. On the other hand, a substantial number of white educators teach classes of about 21 learners. A significant number of coloured educators (29 per cent) also teach large classes. The majority of Asian educators (57.93 per cent) teach classes of about 36 to 45 learners. Only 23.62 per cent of Asian educators teach classes of 46 learners or more.

Figure 3.5: Class sizes by race



Class size by district

Class size was further analysed according to districts in order to determine the degree of variation between them. For the purpose of illustration, two districts (one urban and the other rural) per province were selected. Table 3.2 illustrates the similarities and differences.

Of all the provinces, the Western Cape had the least variation in terms of class size among its districts. The City of Cape Town and Boland districts had a variation of less

KEY FINDINGS

Table 3.2: Class sizes by district

District	Class size		
	0–35	36–45	46+
Eastern Cape			
Alfred Nzo DC44 (rural)	19.6	15.9	64.4
Chris Hani D13 (urban)	28.7	23	48
KwaZulu-Natal			
Uthungulu DC28 (urban)	20.3	35.9	43.8
Umgungulu DC24 (rural)	26.4	34.3	39.3
Free State			
Thabo Mafutsanyana DC19 (rural)	22.1	41.3	36.6
Lejwelepotswa DC18 (urban)	26.7	33.05	40.3
Limpopo			
Sekhukhune CBDC3 (rural)	18.4	19.1	62.5
Capricorn DC35 (urban)	13.2	18.2	68.5
North West			
Central Municipality DC38 (rural)	20.1	38.1	41.8
Kgaladi CBDC1 (urban)	29.8	35.2	35.1
Mpumalanga			
East Vaal DC30 (urban)	21.5	25.9	52.7
Nkangala DC31 (rural)	16.2	29.1	54.7
Gauteng			
Sedibeng DC42 (urban informal)	20	40.3	39.6
West Rand CBDC (urban formal)	23	43.1	33.9
Western Cape			
City of Cape Town (urban formal)	31.3	42.9	25.9
Boland DC2 (urban informal)	29.1	43.6	27.3
Northern Cape			
Namakwaland DC6 (urban formal)	48.2	37.8	13.9
Frances DC9 (urban informal)	28.7	54	17.3

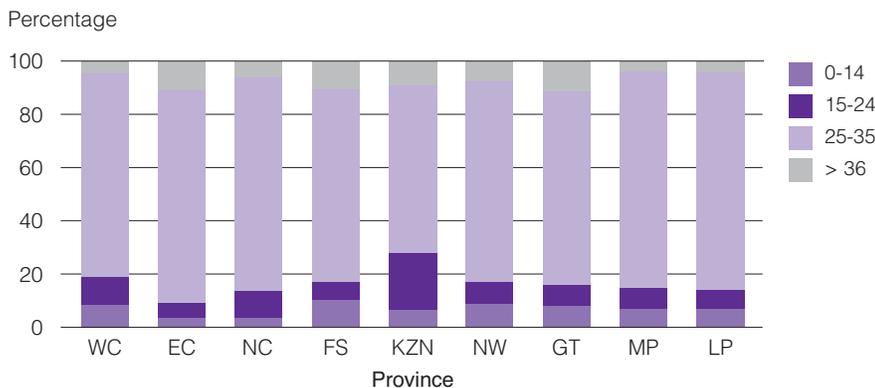
than 2 per cent. In 2001 the City of Cape Town had 31.3, whereas Boland had 29.1. Similarly, in 2002 the City of Cape Town had 42.9 compared with Boland at 43.6. The Free State had a significant differential score between districts of about 4 per cent. Table 3.2 also indicates that the percentage gap between districts in the North West province is significant. In 2001 the gap between Central Municipality (DC38) and Kgaladi (CBDC1) was about 8 per cent, and in 2003 the difference was about 3.8 per cent.

3.2.2 Formal contact hours by province

Educators were asked ‘how many formal contact teaching hours per week’ they taught (question 4.8 on the educators’ questionnaire). Formal contact hours denote the amount of time educators spend on educational activities, specifically teaching and learning in the classroom. This is often referred to as ‘time on task’. The ideal number of formal contact hours remains at 25 per week but, as will be noted below, some educators in this study reported having 35 formal contact teaching hours per week. The province that shows the highest formal contact hours between learners and educators within the category of 25–35 hours is Limpopo with 76 per cent, followed by the Eastern Cape with 71.8 per cent. Mpumalanga is the province with the third highest number of contact hours within the category 25–35. The Western Cape, Northern Cape and KwaZulu-Natal have a lower percentage of formal contact hours in the category of 25–35 hours a week. It is surprising to find KwaZulu-Natal with low formal contact hours, an indication of adequate educator supply, as in most cases it falls within the category of poor provinces, such as the Eastern Cape and Limpopo, with a shortage of educators. This observation will be investigated in a study planned for 2006/7. Looking at provinces with high a percentage of formal contact hours, in the category of 36 and more, we find Gauteng (about 11 per cent), the Eastern Cape (about 10 per cent) and Free State (about 10 per cent).

It is important to note that some educators reported formal contact of less than 25 hours, which means that in relative terms they are doing little at school. This feature was notable in KwaZulu-Natal. The Eastern Cape had fewer educators in this category.

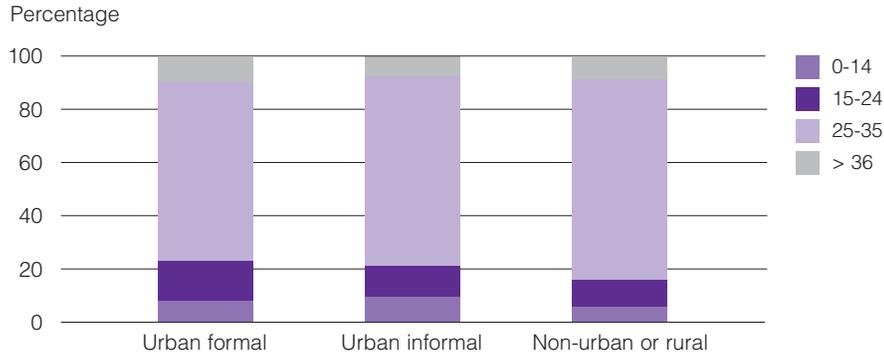
Figure 3.6: Formal contact hours by province



An analysis of formal contact hours by geographic location indicates that a significant number of educators in urban areas (about 13 per cent) fall within the 15–24 formal

KEY FINDINGS

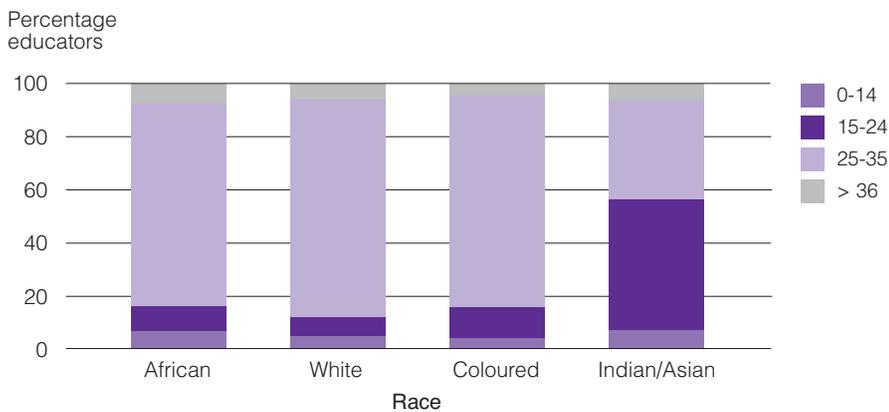
Figure 3.7: Formal contact hours by location of institution



contact hours category. Most of the educators in urban informal and non-urban settlements (about 70 per cent) have more formal contact time within the category of 25–35 hours. This indicates that educators in urban informal and non-urban areas have more contact hours with learners than those in urban formal areas.

Figure 3.7 indicates differences in terms of educators who have formal contact of 36 hours and more. Instead of the general trend, in which urban formal areas have low formal contact hours compared to urban informal and non-urban areas, the former now have higher percentages than the latter. It should be noted, however, that in relative terms urban informal and non-urban areas have a total average of more formal contact hours than urban formal areas.

Figure 3.8: Formal contact hours by race



Analysing formal contact hours according to racial groups shows that about 4 per cent of African educators have more than 36 formal contact hours a week. A significant percentage of Indian/Asian educators (about 4 per cent) have less than 15 hours. On the other hand, most African, white and coloured educators have formal contact hours within the category 25–35, which falls within the national norm.



4. SCHOOL PERFORMANCE

One of the measures of school quality is the achievement scores of learners at a particular exit point. Currently, the matric results provide an indication about the performance of the education system at the secondary-school level (Umalusi 2004). There are attempts to come up with national testing at Grade 3 and Grade 9 (DoE 2001, 2002). This study investigated performance in matric for the three years, 2001–2003.

Figure 4.1 shows that the Northern Cape is one of the provinces that consistently has been achieving higher percentage passes in the matric examination (about 91 per cent throughout the three-year period). The second province that continued to get higher pass rates was the Western Cape, with about 86 per cent during the three-year period. The province reflecting the lowest pass rates over the three-year period was the Eastern Cape, with a pass rate of around 55 per cent. Mpumalanga and the North West also obtained low percentages. Thus, unsurprisingly, provinces with lesser financial resources are the weakest performers in the matric examination.

The analysis of matric performance was also conducted in terms of the total number of exemptions achieved in the provinces. Again, it is evident that the Northern Cape and the Western Cape continue to obtain a significantly higher percentage of matric exemptions.

Figure 4.1: Matric results by province

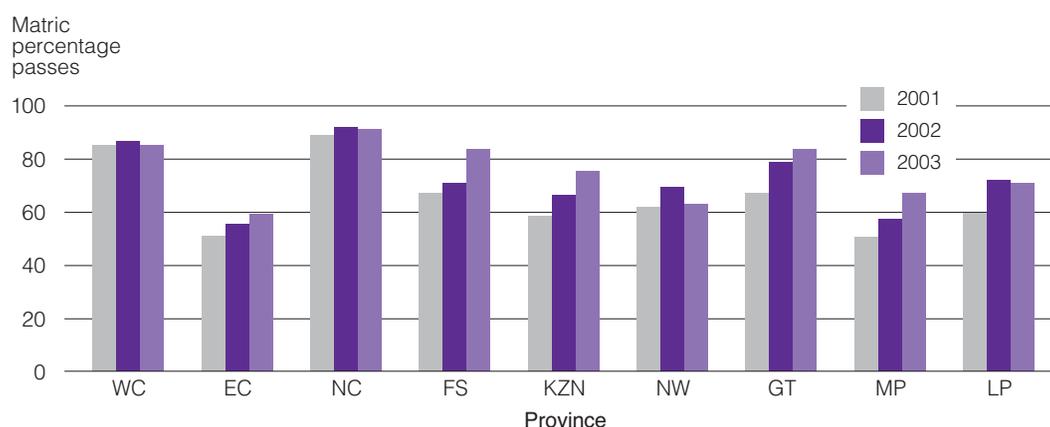


Table 4.1 indicates matric performance by districts. Two districts per province were selected to demonstrate differences and similarities within and between the districts. The selected districts are arranged in the order of largest to least difference.

The first two districts in Table 4.1, located in the Eastern Cape, demonstrate huge differences, with a gap of around 30 per cent. It is worth noting that the differences have been consistent through the three-year period, with a pass rate of 30.7 per cent in 2001, 41.8 per cent in 2002 and 41.6 per cent in 2003 for DC44, which is a rural district, and, in contrast, the urban D13 district achieving pass rates of 70 per cent in 2001, 69 per cent in 2002 and 71 per cent in 2003. Of particular importance is that the two districts differ in their geographic location, one being urban and the other rural.

Table 4.1: Matric results by district

District	Year		
	2001	2002	2003
Eastern Cape			
Alfred Nzo DC44 (rural)	30.7	41.8	41.6
Chris Hanani D13 (urban)	70	69	71
KwaZulu-Natal			
Uthungulu DC28 (urban)	74.5	74.7	73.3
Umgungulu DC24 (rural)	42	36.7	50.3
Free State			
Thabo Mafutsa DC19 (rural)	62	52	61.7
Lejwele DC18 (urban)	70	92	98
Limpopo			
Sekhukhune CBDC3(rural)	54.4	68.2	58.9
Capricorn DC35 (urban)	68.2	82.7	84.1
North West			
Central Municipality DC38 (rural)	56.5	63.5	47
Kgaladi CBDC1 (urban)	67.5	74	81.5
Mpumalanga			
East Vaal DC30 (urban)	66	73.8	75.3
Nkangala DC31 (rural)	31.7	38.7	49.7
Gauteng			
Sedibeng DC42 (urban informal)	71	85.3	81.5
West Rand CBDC (urban formal)	91	88.6	94.7
Western Cape			
City of Cape Town (urban formal)	92.6	91.4	86.2
Boland DC2 (urban informal)	86.8	82.8	82.2
Northern Cape			
Namakwaland DC6 (urban formal)	93.5	87.5	100.0
Frances DC9 (urban informal)	80.66	84.0	80.0

FACTORS AFFECTING TEACHING AND LEARNING

KwaZulu-Natal also had two districts with notable differences – a performance gap of about 20 per cent. The higher-performing district achieved a 74.5 per cent pass rate in 2001, 74.7 per cent in 2001 and 73.3 per cent in 2003. This district is urban-based, in contrast with the rural-based district, which produced low percentages.

In essence, districts that are urban-based tend to achieve higher matric pass rates than non-urban districts. Within districts that are located in urban metropolises there is often little difference, as the two cases from the Western Cape and Northern Cape illustrate. The matric performances of the Western Cape and Northern Cape are consistent with their overall provincial pass rate, where most urban-based schools produce good results.

5. DISCUSSION



The description in the preceding paragraphs indicated a major trend regarding conditions in schools and huge disparities between and within provinces. It was noted that there is a significant difference in the average annual school fee per province. The wealthier provinces such as the Western Cape, Gauteng and the Northern Cape have higher annual school fees, in stark contrast with poorer provinces such as the Eastern Cape, KwaZulu-Natal and Mpumalanga. In the three poorer provinces it is not uncommon to find schools charging less than R100 per annum, compared with an average of R800 in some of the richer provinces. Bot, Wilson and Dove (2001: 67) found that in some rural communities the paltry sum of R40 per annum as a school fee 'is too much for some parents but they try wherever possible to improve conditions in schools'. This pales in comparison with some urban schools where parents are able to afford R5 000 per annum.

School fees constitute an important resource for schools and represent potential for creating an enabling teaching and learning environment. It has been found that schools with few financial resources tend to perform poorly in relation to schools with greater finances (Cohen, Raudenbush & Ball 2003). The amount of money invested in each learner is one of the factors that make certain schools better than others. A good budget means adequate educators, market-related wages for experienced educators, pleasant, clean, comfortable surroundings and sufficient resources. As Klein (1993: 194) observed: 'insufficient money results in overworked, undervalued educators working in decaying premises with inadequate resources, teaching pupils who are daily receiving the message that this is all they are thought to be worth, all they deserve'. In an environment compounded by the effects of HIV/AIDS, the consequences could be disastrous for any efforts aimed at improving the quality of learning and teaching.

While low annual school fees have an overall limiting effect on schools' ability to enhance teaching and learning conditions, it is important to note the positive effects. Low schools fees expand access to a larger number of learners, especially those from poor families. High school fees remain a thorny issue as they restrict the access of learners from poor communities to well-resourced schools (which often charge exorbitant fees). For example, in a study by Dhunpath and Joseph (2004), it was found that some schools in the Pretoria area charge about R11 000 per annum, which makes these schools inaccessible to learners from poor families. However, it is important to acknowledge again the immense contribution made by wealthy parents to augment the funds that their schools get from the national Department of Education. Such parental contribution makes it possible for the department to finance schools differently and to target poor schools – a practice that in some sectors of the population can be regarded as discriminatory and unjust.

To promote equity within the education system, the national Department of Education, through the 'National Norms and Standards for School Funding' (South African Schools Act of 1996), introduced a new funding formula for schools. A revised edition of the 'Norms and Standards' was released for public comment in September 2004 (DoE 2004). The new document proposes a 'pro-poor funding framework', which is premised on a 'National Poverty Distribution Table', a table that measures poverty levels throughout the country. For example, the poverty distribution table indicates that 34 per cent of schools in the Eastern Cape are classified as 'the poorest'. In Limpopo the figure stands at 27 per cent. The richer provinces, such as the Western Cape and Gauteng, have low

FACTORS AFFECTING TEACHING AND LEARNING

percentages – 4 per cent and 7 per cent respectively. A useful planning tool is the 'Resource Targeting List', which provides a list of all the public ordinary schools in the province, arranged from the poorest to the least poor.

The proposals in the revised 'Norms and Standards' address the unequal financial bases of schools, but it should be noted that adequate school finances are a means to an end (quality education) and not an end in itself. It is equally important to monitor how funds are utilised. Adequate allocation of funds needs to be accompanied by effective monitoring systems to ensure that the funds are used productively.

A second defining feature of the proposed funding formula is the exemption of poor parents from paying school fees. However, the Act itself is less effective in opening up access for learners from poor families to some of the best-resourced schools in the country because admission is now restricted in terms of where one resides. While schools cannot deny any learner admission on the basis of parents being unable to pay school fees, schools are required by law to admit learners from their immediate communities. Thus, wealthier communities with well-resourced schools will continue to serve the needs of the rich.

The data presented in this report indicated that the number of learners entering the schooling system has not significantly increased. The Department of Education observed that learner numbers have stabilised in recent years: 'in 1996 there were many learners joining the system each year but since the early 2000s there has been little increase in the number of learners (DoE 2000).

Learners in provinces with low annual school fees also receive their education in classes with a higher number of learners compared to those in the provinces with high annual school fees. National studies have found that the Eastern Cape, Limpopo and the rural areas of KwaZulu-Natal have the largest numbers of learners in their schools (Gordon 1997). The *Education Atlas of South Africa* (Bot et al. 2001) also came up with similar findings of large classes in the three poorer provinces – the Eastern Cape, Limpopo and KwaZulu-Natal. In an international comparative study of mathematics and science, Howie (2001) found that South Africa had large classes with a ratio of 1:49. The Quality Learning Project, which investigates conditions in poor schools across the nine provinces, observes that some poor districts have classes of 59 learners. In some extreme cases, there were 65 learners in a class (Kanjee, Prinsloo, Khosa & Reddy 2003). Larger classes, particularly in impoverished communities, may arguably be regarded as a contributing factor to low matric pass rates. The analysis of class size indicated that African educators are predominantly teaching large classes. It was also observed that rural-based districts tend to have larger classes than urban-based districts.

International studies on effective schooling indicate that class size impacts on the teaching and learning environment, with larger classes performing poorly in comparison to classes with fewer learners (Fullan 1993). It should be noted that there is no total agreement about the optimal class size, and the literature indicates that varying contexts call for different strategies. There is agreement that classes with 50 learners or more are detrimental to proper teaching and learning, but class size should be treated cautiously because it has no magical, unmediated effect on student achievement. Instead, it

DISCUSSION

influences what the educator does, his or her manner with the learners, and what the learners themselves do or are allowed to do.

Educators in schools with low annual fees and large classes also have longer formal contact time. In the poorer areas (urban informal and rural), 60 per cent of educators reported having formal contact time within the range 30–35 hours per week. Findings from poor districts in a study by Kanjee et al. (2003) indicate formal contact time of about 36 hours for both language and mathematics educators. In her study of educators' workloads, Chisholm (forthcoming) notes that 'educators in South Africa are expected to be at school for 1 800 hours per annum'. This translates into an average of seven hours per day and if we multiple that by the number of days per week, South African educators have roughly 35 hours of formal contact time. What might also explain the higher number of formal contact hours is that in secondary schools, especially in Grade 12, educators arrange for extra teaching hours either before the normal school day commences or in the afternoons or on Saturdays.

Overall, a higher number of formal contact hours indicates a shortage or, more precisely, an uneven distribution of educators within the education system. In most cases, the number of formal contact hours is dependent on the number of educators per school. In schools with insufficient educators, the educators have more formal contact hours. Schools with sufficient educators have a lower percentage of formal contact hours. Schools in wealthier areas do not rely on state-funded teaching posts, as they are able to raise funds and pay for educators. In contrast, schools in poor areas rely heavily on state-funded teaching and in most cases do not have sufficient educators.

That African educators reported having more formal contact hours is not surprising, because generally the poorer areas of the country are highly populated by Africans and that is where the shortage of educators is. Ninety per cent of mathematics and English educators in poor schools across the country are African (Kanjee et al. 2003). The implication of more formal contact hours is that the quality of teaching will be affected as the work of educators is spread across grades; the workload demands on educators are greater, resulting in educator ineffectiveness and stress.

The analysis of matric results demonstrated differences across and within provinces. Empirical evidence suggests that socio-economic status (class) influences overall school performance. Provinces that are relatively rich (the Western Cape, Northern Cape and Gauteng) obtain higher overall matric pass rates than the poorer provinces. A provincial comparison of matric results by Shindler and Beard (2001: 2) found that 'the Western Cape (with 81% pass rate) followed by Northern Cape (71%) and Gauteng (68%) achieved the highest pass rates'. Differences were noted within provinces, where urban-formal areas achieved good matric passes compared to poorer matric results in urban-informal and rural areas. The Eastern Cape, KwaZulu-Natal and Mpumalanga obtained poor matric results in the three-year period. Thus, while it is important to examine actual teaching practices and the efforts that learners put into their school work, as these influence performance in matric, it is clear that the socio-economic conditions in which learners live need to be improved. Put differently, the system at large (economic and social) fails learners in poor provinces and districts. However, it would be inappropriate to find fault solely with the economic and social system, as it is highly likely that the efforts of

FACTORS AFFECTING TEACHING AND LEARNING

educators and learners in poor communities are partly to blame for the quality of passes in matric. It is critical to investigate simultaneously what individual actors do in a school and what the broader social and economic system does to enhance teaching and learning.

It is important to note that African educators are predominantly teaching in the provinces with low annual school fees, large classes, longer contact time and poor matric results. In contrast, white educators were reported to be teaching in provinces with high annual school fees and small classes.

What is most worrying is that the research data found that most of the HIV/AIDS-infected educators are working in the poorer provinces, which have an inadequate financial base, large classes, longer formal contact time and low matric results. This has serious educational implications. It means that the sectors of the population that have been served badly by years of deliberate neglect and oppression are the same people who will bear the brunt of the scourge of HIV/AIDS.

In educational terms, this means that learners in provinces with low annual school fees and a high prevalence of HIV/AIDS will have their learning experiences heavily restricted compared to those in provinces with high annual school fees and a low prevalence of HIV/AIDS. This suggests some form of causality: low annual school fees, large classes, higher percentage of contact time and higher prevalence of HIV/AIDS result in low matric pass rates. This general pattern suggests a sort of structural determinism, where those in poor schools (and communities) tend to perform poorly because of debilitating conditions and factors.

However, this needs to be treated with extreme caution as it may be interpreted as suggesting that learners located in poor school conditions (low school fees, large classes, HIV/AIDS-infected educators) will almost always do poorly when compared to those in better-off conditions. The educational context does play a major role in the educational performance of learners, but the agency of the learners and other people in the specific context play an equally critical role in getting good matric results. Agency refers to the resolve people have to improve their lot with or without the assistance of the government. It does not always hold that those in depressed school contexts will inevitably achieve poor results. At times, depending on the level of determination and agency of the people in a specific context, poor conditions can be transcended to achieve good results. There have been pockets of excellence observed in some non-urban schools in poor provinces, such as the matric results of Mbilwi Secondary School in rural Limpopo.

While the findings suggest that poor communities are characterised by poor educational contexts, a simple model of causality (that is, direct more resources to poor schools and matric results will improve) should not be implied or assumed here. Improving educational quality depends on a host of factors, the overriding one being the agency of people within such communities (Christie 2001; Phurutse 2004). Resources by themselves will not improve the quality of education. It is important to state, however, that the conditions in which educators work need to be improved and disparities between urban and rural schools eradicated in attempts to improve the quality of education, especially in poor rural communities.

DISCUSSION

Combining the various factors that impact on educators and education in poor provinces, it is obvious that urgent steps and programmes should be planned to alleviate the situation in provinces with low average annual school fees per school, large class sizes, longer formal contact time and poor matric results. A multidisciplinary approach is needed, where different sectors pull together resources (both intellectual and human) for the improvement of life and education in poor communities.

To summarise, the typical characteristics of the schools in which educators work show huge differences between and within provinces according to annual school fees, class size, formal contact hours and the performance of learners in matric. Such differences also play themselves out in terms of race and class. It was found that not only do some provinces have low annual school fees, large classes and low matric pass rates but that in addition they recorded a higher percentage of educators with HIV/AIDS. These typical characteristics of public schools in South Africa give credence to the thesis of President Thabo Mbeki who, borrowing from the work of Langston Hughes, has observed that South Africa is made up of two nations – one that is rich, predominantly middle class and urban-based and one that is poor and rural-based. While this seems to polarise society and masks some differences within the two nations, overall the schools and educators described in this study validate the ‘two nations’ thesis.

The picture that emerges here indicates serious challenges to equal access to education and knowledge acquisition. As Bernstein (1996: 8) notes, access to resources affects access to and acquisition of knowledge:

The distribution of material resources tends to follow the distribution of images, knowledges and possibilities so that there is an inverse relation between resources and the hierarchy of images and knowledges. For those at the top there is more, for those at the bottom there is less, with respect to their needs and conditions of effective support. This maldistribution of resources, certainly outside the school and often within it, *affects access to and acquisition of school knowledge*. (Emphasis added)

The challenge is to ensure that learners in the deprived inner areas of the cities and remote rural areas have the same access to the acquisition of knowledge. To eradicate inequalities within the education sector, attention should be paid to the distribution of resources, because skewed distribution of resources results in skewed access to knowledge acquisition. This would be a critical first step.

It is important to note that, while resources are critical for teaching and learning (and obviously the resource base of schools in poor provinces should be expanded and increased), the quality of instruction:

does not inhere in teachers’ formal qualification or the caliber of materials, but in how the knowledge and skill is deployed to frame tasks and use instructional resources ... Teacher quality is determined less by a teacher’s formal qualification and more by a teacher’s ability to make pedagogically fruitful use of materials, students’ work, and their own subject matter knowledge. Similarly, the quality of materials depends both on how accessible and engaging they are for learners and on how well they enable teachers to make sense of and use them. (Cohen et al. 2003: 16)

While the preceding discussion has focused on conditions in schools, it is important to note that improving school conditions requires an approach that locates schools within the broader society. For example, we do not have to treat poor matric results as the problem of educators and learners (and the Department of Education) in a specific school, as there are broader factors within the community and family that affect overall learner performance. Graaf (1991: 228) provides a timely reminder of this:

Attempts to improve rural schooling or indeed schooling in any part of the country will largely be ineffective if they do nothing more than focus on pupil-teacher and pupil-classroom ratios, teacher qualification, and the provision of textbooks and desks, that is, *if they limit their concern to internal, educational aspects*. (emphasis added)

He goes on to point out that ‘the economic and social environments in which children and their families find themselves determine a great deal their performance before they walk in the school door’.

In conclusion, increased school finances alone will not improve education in provinces and districts with low annual school fees. Similarly, reduction in the number of learners per class is inadequate in solving educational problems in provinces and districts with large class sizes. Putting pressure and more accountability on educators is insufficient in addressing the quality of learner performance in matric. Measures intended to improve education in general, and particularly in poor communities, should be broadly conceived to include factors outside the classroom and school.

6. RECOMMENDATIONS



1. Financial bases of schools

The preferential public funding of schools in poorer communities introduced by the new 'Norms and Standards for School Funding' is a significant development in attempting to equalise the financial bases of schools, but improving the finances of schools in poverty-stricken areas will do little to enhance the quality of education in those communities. A multi-pronged approach involving different government departments should be worked out to improve the financial bases of poor communities. The Departments of Social Development, Education, Finance and Health should work together in addressing educational issues in poor communities.

Further, while wealthy parents will continue to finance the education of their children and enlarge the financial gap between schools in wealthy suburbs and those in poor communities, the business sector should be encouraged to support schools in poor neighbourhoods, and financially secure families in poor communities should be encouraged to significantly contribute to school finances.

2. Target districts with large classes, low matric passes and inadequate financial resources

Districts with poor matric results, large classes and inadequate finances should be prioritised in government intervention programmes to improve education. The key issue here is differential treatment of districts and schools.

3. A study of classroom practices to develop models of good practice

A study on schools with educators affected by HIV/AIDS should be undertaken to ascertain how they go about their core business – teaching and learning. Is the quality and quantity of classroom interaction around subject-matter severely affected by the prevalence of HIV/AIDS? If so, in what ways? Ultimately, attempts to improve education must be directed towards putting in educators' hands the tools they need to enable all learners to meet the demanding standards required by our society, our economy and our political leadership.

4. Systemic evaluation at primary level

The current national systemic evaluation in primary schools should be continued, as it attempts to give a sense of what primary school learners can and cannot do. Data from the systemic evaluation studies can inform intervention programmes aimed at improving the quality of education in primary schools. While national testing has its flaws and limitations, it nevertheless provides objective assessment data unlike self-reported data provided by educators and principals.



REFERENCES

- Bernstein B (1996) *Pedagogy, symbolic control and identity*. London: Taylor and Francis Ltd.
- Bot M, Wilson D & Dove S (2001) *The education atlas of South Africa 2000*. Johannesburg: The Education Foundation.
- Chisholm L (forthcoming). Educator workload survey. A report for the Education Labour Relations Council. Human Sciences Research Council.
- Christie P (2001) Improving school quality in South Africa: A case study of schools that have succeeded against the odds, *Journal of Education* 26: 40–49.
- Cohen D, Raudenbush S & Ball D (2003) Resources, instruction and research, *Educational Evaluation and Policy Analysis* 25(2): 1–24.
- Department of Education (1996) South African Schools Act of 1996. Pretoria, Government Publishers.
- Department of Education (2000) Report on the school register of needs 2000 survey. Pretoria, Government Publishers.
- Department of Education (2004) National norms and standards for school funding. Proposals for amendments, September.
- Dhunpath R & Joseph M (2004) Factors promoting or inhibiting multilingualism in post-apartheid South African schools. Unpublished paper, Human Sciences Research Council.
- Fullan M (1993) *Change forces*. London: Falmer Press.
- Giddens A (1987) *The constitution of society*. Great Britain: Polity Press.
- Gordon A (1997) Multiple inequalities: Challenges facing South African rural schools. Paper presented at a Conference on Developing Quality Schooling in Rural Areas. White River, Center for Education Policy Development.
- Graaf J (1991) South African farms and their schools: Possibilities for change. In Unterhalter E, Wolpe H & Botha T (eds) *Education in a future South Africa: Policy issues for transformation*. Cape Town: Heinemann.
- Howie S (2001) Mathematics and science performance in Grade 8 in South Africa 1998/1999. Unpublished paper, Human Sciences Research Council.
- Kanje A, Prinsloo C, Khosa G & Reddy V (2003) Improving learning in South African schools. The Quality Learning Project mid-term evaluation. Unpublished report, Human Sciences Research Council.
- Klein G (1993) *Education towards race equality*. London: Cassell.
- Mbeki T (2002) An address to national parliament, *City Press* 17 February 2002.
- Phurutse MC (2004) Rural schooling: A case study of the instructional approaches of secondary school teachers in Limpopo Province. PhD thesis, University of the Witwatersrand, Johannesburg.
- Shindler J & Beard S (2001) *An analysis of the 2000 senior certificate examination*. Houghton: Edusource.
- Umalusi (2004) *Investigation into the standard of the senior certificate examination*. Pretoria.