



**ACCOUNTABILITY AND SUPPORT: IMPROVING PUBLIC
SCHOOLING IN SOUTH AFRICA
A Systemic Framework**

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INTRODUCTION

South Africa provides, by any developing country's standards, access to the opportunity to learn to a very high proportion of its young people. Participation rates at the primary level are close to 100% and at the secondary level they are also high. And since 1994 the state has made every effort to differentially redistribute resources toward the poorer parts of the system (Taylor, 2001). However, the point has been made that the quality and cost effectiveness of this access are way behind those of countries that are far poorer than South Africa (Crouch, 1997; 1999; Taylor, 2001). Indeed, the opportunity to learn is about much more than access, although obviously this is a prerequisite. For that opportunity to be realised schools must be well managed and classes well taught, and it has long been realised that in South Africa much more needs to be done in our schools and classrooms if we are to offer real opportunity to our young citizens.

The problem is widely recognised and huge resources are being committed to improving the situation. Dozens of school development programmes have been in operation over the last 5 years, and more are commissioned every year. Up to the last year or two these were largely initiated from the non-government sector, although there are probably none in which government has had no involvement. It is estimated that something in the order of 20% of the nation's nearly 30 000 schools are involved in donor- and NGO-initiated development projects of one or other kind, with a total off-budget expenditure of up to R500m annually. This includes five year commitments of some R120m by US AID, and R300m by the Business Trust, a new five year allocation of R240m by the British Department for International Development, following the completion of the R90m Imbewu programme; smaller but still very significant contributions by the Joint Education Trust, the National Business Initiative, the Royal Netherlands Embassy and the Danish International Development Agency; and dozens of smaller projects supported by a host of local and offshore donors. Government has begun to initiate its own programmes of targeted reform, such as the School effectiveness Initiative (SEI) and the National Strategy for Maths, Science and Technology.

In general the effects of these efforts have been hard to discern to date. To a very considerable extent this apparent lack of impact is due to the enormously complex nature of schooling, and the consequent difficulties involved in bringing about the alignment of the diverse elements required to make a difference, to say nothing of the long haul needed before any significant changes at the institutional level begin to manifest themselves in improved outcomes. There are also unresolved debates about what constitutes significant change and how it should be measured.

While our information base on school reform remains pretty insubstantial, the research tempo has begun to pick in the last 2 or 3 years, and much data has begun to accumulate, from government, the Higher Education Institutions (HEIs) and NGOs. In order to collate, extend and make sense of this work, JET established the Research on School Development programme in 2000 so as to get an idea of the scale of school development activity in the country, to try to understand how the different initiatives are structured, and to try to establish what the success factors might be. The overall objective of the research is to promote a more informed debate among the actors on how best to proceed with school development. This conference has been convened to consider the research findings, and to take this debate a step further.

The products of the research programme to date include:

- A paper by Joe Muller and Jennifer Roberts entitled The Sound and Fury of School Reform, an overview of the international debate.
- A Database of school development programmes operating in South Africa during 2000/01.

Twelve Case Studies of donor funded school development programmes, and a synthesis paper by Jennifer Roberts.

- An evaluation of the Education Action Zones in the GDE, by Brahm Fleisch.
- Learner performance data in literacy and numeracy from over 43 000 pupils in Grades 3, 6 and 9 in 933 schools drawn from all 9 provinces, co-ordinated by Penny Vinjevoold.

Data on school management and classroom practices in some 200 of the schools in which testing was undertaken.

An analysis of some of the social and economic determinants of language and maths performance in 36 disadvantaged high schools spread across all 9 provinces, by Charles Simkins and Andrew Paterson.

The present paper is an attempt to derive a systemic view of school reform from this work. By systemic I mean:

- identifying the main components which comprise the enterprise of public schooling,
- assessing how the functionality of each could be improved, and
- determining which levers are most effective in fitting the component subsystems together better and bending them to our needs.

ACCOUNTABILITY AND SUPPORT: THE TWO PILLARS OF SYSTEMIC FUNCTIONALITY

Two kinds of measures are available for improving the equity, efficiency and quality of public schooling. Accountability measures give direction, set performance standards, and monitor outcomes; they are used to manage staff and resources; they offer incentives, and administer rewards and sanctions as a consequence of performance. Support measures empower individuals to meet the expectations set by these demand drivers: they build capacity, provide training, establish systems and structures, and distribute resources.

Mechanisms designed to hold institutions and individuals accountable include curriculum frameworks, assessment and certification systems, school inspection, performance management reviews, financial auditing, research, and public debate. They are administered mainly by the state at different levels - national, provincial, district and school. Researchers and the media also play a crucial role in informing and propagating public debate.

Support mechanisms include training programmes, and the provision of buildings, utilities, LSMs and other equipment. Appraisal schemes, such as the proposed development appraisal system (DAS) have the potential to play an important role in identifying individual training and support needs. The principal agents of support measures are state officials at provincial, district and school levels. HEIs, NGOs, teacher unions and other professional associations are important in designing and delivering training programmes, and enhancing the professional status of teaching.

APPROACHES TO SCHOOL DEVELOPMENT

The debate on school development is long and complex. As is the case with many debates in education it is riven with the kinds of ideological wars which dichotomise often technical issues into opposing points of principle. Some of these positions refuse to acknowledge the value of empirical evidence in adjudicating their claims. So we live in a world where anyone can say what they like and we have no way of deciding whether the grand plans visited on our children in the name of one or other evangelism are part of the problem or part of the solution.

Fortunately, there are signs that we are emerging from this long night of what Moore and Muller (2002) call 'voice sociology', in which knowledge is inextricably linked to identity and personal view. The fact that in 2000 the Minister of Education could exercise the political and intellectual courage required to review Curriculum 2005 starkly demonstrates this point. The question as to the extent to which this ground was prepared by the terms of the public discourse (see, for example, Muller, 1998; Jansen, 1999; Taylor and Vinjevold, 1999), is an important question when considering the role of public intellectuals, and one that is occupying several historians for this reason.

Outside-in and inside-out initiatives

The JET paper analysing the literature on school reform (Muller and Roberts, 2000) concludes that the decades-long standoff between defenders of the 'outside-in' (standards-based, school effectiveness) approach, and proponents of 'inside-out' (school-focused or school improvement) reform is giving way to a convergence between the two models. There is a growing realisation that a systematically constructed combination of the two is required to break the very poor record, internationally and in South Africa, of success in improving the quality of ineffective school systems. But that is a little ahead of my story: I want first to briefly contrast the outside-ins and the inside-outs.

Outside-in initiatives generally start with a set of standards: this is the locomotive that pulls the learning train. In contrast to early efforts, which focused on standards which proved to be too vague to provide firm guidelines to teachers, the outside-in reformers have come to realise that standards should be clear, parsimonious and rigorous. Further, these should be accompanied by exemplars of achievement which model the level of performance required of students, and by a comprehensive set of materials which support classroom instruction. Assessment of student performance provides the hard data which enables outside-in initiatives to 'steer by results', and gives all actors in the system the summative results of their combined efforts. The problem with this approach, on its, as several critics have pointed out (See, for example, Elmore and Burney, 1999), is that school managers and teachers are often expected to perform at new levels for which they are not equipped: the capacity to meet the new expectations needs to be built among individuals and institutions.

By contrast, inside-out reformers have tended towards a celebratory rather than investigatory approach; indeed, until relatively recently, these approaches have tended to eschew the assessment of learner performance as a measure of school improvement. However, agreement on student achievement as the ultimate measure of the health of both individual institutions and the school system as a whole is now, if not quite a shared article of faith, at least a point of convergence between the 'inside-outs' and the 'outside-ins'. There is also now much wider appreciation for the fact that a significant component of learner performance is a reflection of the home environment, and that it is the value which a school adds to student entry level performance (the 'residual variation'), which measures the worth of the school. Work in progress in South Africa (Crouch and Mabogoane, 1998; Simkins, forthcoming) indicates that home background may contribute a relatively small proportion to school achievement within the disadvantaged sector, although much

Another feature of early 'inside-out' reforms was the tendency to focus primarily on issues of organisational culture: shared values, vision and teamwork. Latterly there has been a shift towards the realisation that, in addition, an explicit focus on improving classroom instruction is a prerequisite to improving learner achievement. Even more important, there is a growing awareness that school improvement needs to be tailored to the specific state of development of the school. Thus, severely dysfunctional schools (Type I schools, in the terms of Hopkins and MacGilchrist, 1998) require organisational stabilisation, the establishment of basic management systems, and governance and management training, in order to establish the conditions conducive to effective

teaching and learning. Only once a threshold level of institutional functionality has been achieved (Type II schools) can interventions at the classroom level be effected.

Up to at least 1995 INSET for teachers or principals was the overwhelmingly predominant form of activity aimed at school quality improvement in South Africa. In that year the Teacher Education Audit estimated that there were over 100 programmes of this type in operation in the NGO sector alone (CEPD, 1995). These were classic inside-out approaches, as were the Whole School Development (school-by-school) programmes which began to emerge in the mid- to late 90s. The latter are premised on the assumption that, while improving the capacity of individuals may be a necessary condition for institutional change, it is not sufficient; there must in addition be an explicit focus on institutional development.

Mainly inside-out reforms

Although we have commenced the sea-change necessary to create the conditions for effective systemic reform, it can probably still safely be said that most school development programmes currently in operation in South Africa lean towards the inside-out, to some extent by default. This default occurs for two reasons. First, because accountability measures, with the exception of the matric exam, do not yet bite down to the school level, schools are in large measure unaccountable. Consequently, training programmes and other support measures, because they have no outcome indicators of change, tend to focus on soft issues such as institutional vision and culture, and not on the technicalities of, for example, procuring and managing textbooks and stationery, or quality assuring the delivery of the curriculum. The participants are free to implement the lessons of this training in their districts, schools or classrooms, or they may decide not to. No one would know the difference because of the absence of monitoring and other accountability sub-systems. It is a premise of our systemic model that the impact of programmes of this nature would be immeasurably increased if they were linked to defined outcomes such as improved learner performance: managers and teachers would know what is expected of them, and be better motivated to utilise the services of the training to assist in meeting these performance standards.

A second reason inhibiting these programmes from moving from inside-out to systemic mode is because the training providers are often stuck in the former, perhaps more by habit than design. It must be asked at this stage whether the kind of short and fragmented bursts of workshop-based training offered by NGOs and consortia in these school development projects can build the deep knowledge structures and professional comportment among teachers and managers required to improve the quality of schooling. A related question is whether training programmes for individuals can have an impact on the system if they are not linked to institutional development.

Mainly outside-in

Since the demise of the apartheid government outside-in reform initiatives have been notable by their absence. The first to break ranks was the Education Action Zone (EAZ) programme adopted by the Gauteng Department of Education (GDE) in 2000. The EAZ programme represents a classic outside-in initiative, albeit in a restricted form, which may hold important lessons for school reform in South Africa. Although designed as a comprehensive systemic initiative which included monitoring schools and providing support and training to principals, teachers and pupils, and although some of the latter components were implemented to a limited extent, in effect the EAZ focused largely on the first of these measures (Fleisch, 2001). Furthermore, a project approach was adopted in administering the programme, rather than strengthening the systems and capacity for school monitoring and support in the standard line functions of the GDE. Thus, the EAZ was managed from the provincial head office, with special units responsible for earmarked schools, and reporting directly to the MEC and SG.

We will argue below that this was an unsustainable strategy which, whatever its initial gains, would reach a ceiling fairly rapidly. Nevertheless, the EAZ, injected a renewed respect for the legitimate authority of government and began the process of building a culture of accountability towards pupils, parents and the taxpayer, on the part of schools, principals and teachers. The EAZ was accompanied by an impressive rise in matric results in targeted schools, both in the absolute sense and relative to non-EAZ schools. It would seem likely that this improved performance is a direct result of the programme, and a follow-up study is in progress, aimed at identifying the specific mechanisms through which this success was achieved. The following are among the most noteworthy features of the programme:

- 67 schools, or 14% of Gauteng's high schools which offer grade 12, were involved.
- It was targeted at the worst performing schools in the province: in the 1999 matric exams all 67 schools achieved pass rates of 30% or below, with 64 of the schools at 20% or below.

In 2000 only 29 schools remained at 30% or less, with only 13 at 20% or below.

90% of EAZ schools achieved the targeted 5% improved pass rate.

The aggregate pass rate for EAZ schools improved by an average of 14,5%, which exceeds the improvements shown by both other former DET schools in the province (up 10,1%), and all public schools in Gauteng (5,3%).

The number of matric passes in EAZ schools increased from 1677 in 1999 to 2313 in 2000 (up 38%).

The number of distinctions achieved by EAZ schools increased by 422%, from 37 in 1999 to 193 in 2000.

- The number of university exemptions increased by 47%, from 107 to 157.
- These developments were accompanied by a marked decrease in the number of candidates enrolled for the exam at EAZ schools. While there was a small overall decrease of 1,7% for the province as whole, and a drop of only 3,4% for former DET schools, EAZ schools showed an aggregate decrease of 25,4%.

The fall in enrolments at EAZ schools may be due to parents and pupils voting with their feet and moving to schools with better prospects, or to EAZ schools applying stricter criteria for registration, or any combination of these factors. Fleisch (op cit) speculates that, whatever the origin, the smaller numbers of candidates may have contributed significantly to improved achievement, by providing greater access on the part of students to resources, and changing the climate of grade 12 classes; these conditions were reinforced by the increase in study time provided by the monitoring of attendance and punctuality. However, an interesting rider to this conclusion is provided by a small number (8, or 12%) of EAZ schools who improved their results while increasing their roll, or at least holding steady.

Systemic reform

Systemic reform programmes may be seen as a combination of outside-in and inside-out approaches. Whereas outside-in programmes employ mainly accountability measures, and the inside-out initiatives focus mainly on support activities, systemic reform is premised on the need to align and mediate accountability and support. In summary, the rapprochement that is occurring between the two broad models of school reform is leading to a convergence around the importance of linking classroom instruction to an external accountability system. There is general understanding that, without an explicit focus on schools and classrooms, improved learning is very difficult if not impossible to achieve. And without attention to building capacity in higher levels of the system, change cannot be directed and monitored effectively, nor is it likely to be sustained beyond the life of the project, or be replicated in non-project schools.

Large scale systemic reform programmes have been gaining ground in the last decade in the US (Elmore et al, 1996) and in 1997 what may prove to be the largest and most successful such initiative, the National Literacy and Numeracy Strategy (NLNS), was launched in England (Fullan, 2001). In announcing the programme the Minister set targets for the improvement of the national average for literacy scores for 11 year-olds from 57% to 80% by 2002, and an increase in numeracy scores from 54% to 75%. He promised to resign if these goals were not met.

It would seem that the Minister's job is safe. By 2000 literacy results had reached 75% and numeracy scores 72%. Michael Fullan (op cit), the evaluator of the programme, describes these results as "astounding", given that 20 000 schools and 7 million children are involved. He has no doubt that the 2002 targets will be met. Fullan ascribes this success to a number of features of the programme, including:

- A national plan, setting out targets, actions, responsibilities and deadlines
- A substantial investment, sustained over at least 6 years and skewed towards those schools most in need
- An expectation that every class will have a daily maths lesson and a daily literacy hour
- Both initial teacher training and the ongoing professional development of administrators, principals and teachers designed to enable every primary school teacher to understand and be able to use best practice in teaching literacy and numeracy
- A major investment in books (over 23 million new books since 1997)
- Regular monitoring and extensive evaluation by OFSTED

Clearly the programme has been designed so as to line up and integrate accountability and support measures so that they operate in tandem, respectively pulling and pushing the schooling system to higher levels of performance. Fullan's diagnosis is that almost all the gains can be attributed to an increase in teacher motivation. He is also convinced that the improvements in learning performance are valid, in other words, that the results are not just a trick of measurement, but that children actually are reading, writing and doing maths significantly better than they were before (although he has some reservations as to whether the programme may be confining its target to too narrow a band of knowledge and skills).

However, he does raise a question as to how lasting the gains might be. In emphasising the key role of government in large-scale reform, Fullan identifies three elements. Government should:

- demand accountability of schools and teachers,
- provide incentives to perform better, and
- build capacity to manage and teach more effectively.

While the National Literacy and Numeracy Strategy has been very successful at implementing the first two elements, Fullan contends that deep-rooted capacity is not being built. This may seem to be quibbling in the face of a massive achievement, especially in view of the fact that the programme has focused on the professional development of teachers. But what Fullan means by his criticism is that schools are not undergoing the fundamental transformation required to turn them into learning organisations: only when this happens will the achievements of the programme be truly sustainable.

CURRENT DEVELOPMENTS IN SOUTH AFRICA

ACCOUNTABILITY MEASURES

The new government inherited a system of education in which the authority of the state had been steadily eroded over a period of two decades. While the new dispensation was very popular in the majority of schools, individuals and institutions by and large had never known life under a functional system in which the authority of line managers was respected. Instilling the idea of

legitimate authority, and setting up accountability systems for the exercise of this authority has proved to be one of the most intractable problems over the last 8 years. This is true of every sphere of the public sector. In the last two or three years the 10 Departments of Education have begun systematic efforts to improve accountability, in terms of directing, monitoring and steering the system (Ministry of Education, 2001).

Directing

Once the new National Curriculum Statements (NCS) have been finalised, the system will, for the first time since 1994, have a clearly defined framework of what teachers and pupils should be doing and achieving in classrooms. This makes possible the co-ordination of the efforts of teachers, textbook writers, and assessors in directing, delivering and monitoring teaching and learning. The NCS will be the intended curriculum, which sets the goals for learning.

Monitoring

Virtually the only performance monitoring system in place at present is the matric exam: a push on the part of government over the last two years to improve exam scores would appear to be bearing some fruit, with the 2000 results for Gauteng quoted above replicating themselves in most provinces. Taken together these results are most impressive indeed: not only did we in that year produce more matriculants, and not only did we improve the quality of these products, but we did it while reducing the number of candidates by over 4%, hence achieving significant cost savings in the process (although the drop in enrolments, even more marked in 2001, is a phenomenon which requires investigation). In other words, quantity, quality and efficiency were all improved simultaneously. While it is not necessarily always the case that any increase in the quality of such outputs is invariably associated with an improvement in equity, given that the 2000 improved matric results were largely the result of improved performance in disadvantaged schools, they also indicate a more equitable distribution of learning opportunities for South African children. This is supported by the very significant decrease in the number of schools in the 1-20% and 20-40% pass rate brackets, since most of these schools are situated in the poorest areas.

The results for 2001 are also very interesting:

TABLE 1: SENIOR CERTIFICATE PASS RATES FOR 2000 AND 2001 BY PROVINCE				
		PASS RATES (%)		
	2000 (change on '99)	2001	Change	
NC	71,2 (+6,9)	84,2	+13,0	
WC	80,6 (+1,8)	82,7	+2,1	
GT	67,5 (+9,5)	73,6	+6,1	
NP	51,4 (+13,9)	59,5	+8,1	
KZ	57,2 (+6,5)	62,8	+5,6	
FS	52,7 (+10,6)	59,0	+6,3	
NW	58,3 (+6,2)	62,5	+4,2	
MP	53,2 (+4,9)	46,9	-6,3	
EC	49,8 (+9,6)	45,6	-4,2	
			+3,8	

Calculated from Minister Asmal's statement, 27 December 2001

*Appears to have been calculated as the unweighted mean of the provincial means

The national improvement in the pass rate (+3,8%) is not very meaningful for at least three reasons. First, this was the first year in which the so-called Continuous Assessment (CASS) scores, submitted by schools, were incorporated into the overall score. While a measure of quality assurance was exercised by correlating the CASS and exam marks and moderating the former to

within 5% of the exam mark, it could be argued that, since the national improvement of 3,8% lies within this tolerance, it is statistically insignificant. The second reason why the overall improvement does not signify much is that it is not clear whether it was calculated as the unweighted mean of the provincial means, or whether it was calculated from the total number of candidates. This question can only be resolved once all the figures have been released, although, from the available data, it would appear that the former method was used, which gives a meaningless answer.

But the third and most important reason why the national average should not be dwelt on is that it masks very significant variations across the provinces. The obvious problem of publishing the matric results in this sort of league table is that the figures give no indication of the value added by each province. As they are we have no idea as to the significance of these raw comparisons. The following speculation is based on the assumption that all provinces operate under the same contextual conditions. This assumption may be more valid when comparing the large, predominantly rural provinces like EC, KZN and NP with each other than with more highly urbanised provinces like GT.

In the light of these figures a question arises as to the role of the EAZ programme in Gauteng in improving the pass rate, when KwaZulu/Natal, and the Free State achieved comparable gains, while the Northern Province and particularly the Northern Cape significantly outperformed Gauteng, all seemingly without EAZs. It may be that, in allocating major resources to improving results in the poorest performing schools in the province, the middle and upper range schools were neglected, and the average improvement of 6% of all Gauteng schools was contributed largely by the weakest schools. The more questions we ask the more we realise that we need more data, and to analyse it at ever more detailed levels. Within provinces, for example, it would be instructive to compare categories of schools, by socio-economic status, and by performance. Within and between individual schools, it would be instructive to look at the differential effects of school management, teacher characteristics and instructional practices on pupil performance.

An important feature of the results for KZN, FS, NP, NC and GT is that their gains exceeded the margin of tolerance built into the CASS moderation, and would therefore seem to constitute significant improvements over the 2000 results. The divergence of results across provinces would indicate that any gains are due to superior performances by these provinces, rather than to the application of some or other statistical trick, which would have resulted in increases across the board. Obviously some provinces are doing better than others, and the burning question is: what is that something, and would the more poorly performing provinces benefit from the same measures?

Can our systemic theory of school reform explain the differential improvements across provinces in the 2000 matric exam (bearing in mind that, because they are not adjusted for value-add, we are not comparing apples with apples)? A plausible hypothesis, supported by Michael Fullan's speculation about the role of teacher motivation being behind the success of Britain's NLNS, would be that the mere fact of heightened expectations of schools gave principals and teachers something to aim for; something concrete, measurable and achievable. This hypothesis is certainly given strong support in the literature. Nevertheless, it would be interesting to put it to the test in the South African context: in particular it would have to explain, for example, that expectations of improved matric results were conveyed with greater urgency in the Northern Province than they were in Mpumalanga, leading to an increase in performance in the former and a decrease in the latter. This line of argument is supported by the NP's claim to be the first province to institute common exams in all secondary school grades (Star, 27 December 2001), thus increasing expectations (as well as improving exam techniques) throughout the high schools. Circumstantial arguments which further support the hypothesis are that other accountability measures in the pipeline have not yet, as we elaborate below, begun to be implemented, while support measures such as improved textbook

distribution, or training programmes – increasing the cognitive resources of the system - would require a longer period of development before they began to have an effect.

The sharp light thrown on what our children have learnt by the very end of the schooling system through our national obsession with the annual matric exam is in strong contrast to the murk which shrouds this question throughout all other grades. The good news in this regard is that the long awaited Systemic Evaluation system, which aims to sample learner performance across the country, was piloted at grade 3 level last year. Once this is fully in place we will have indicative data for a representative sample of schools across the country. This will be invaluable in designing intervention programmes, and immeasurably improve the monitoring of performance by province.

What little we do know at present about learning at grades 3, 6 and 9 is very disturbing, and indicates that the reason why there are so few matric passes when compared with total enrolments in the primary school grades is because children are not learning what we expect them to learn in each of their grades, and that this effect rapidly accumulates as they fall further and further behind the level at which, for example, their textbooks are written (see Vinjevold, forthcoming, for an overview of this work).

Overall the studies indicate that learners in the majority of poor South African schools are performing well below what is expected of them by provincial and national curriculum documents (see for example, the Western Cape Education Department's Benchmarks for Literacy and Numeracy in the Foundation Phase and the recently developed Draft National Curriculum Statement (NCS) for Grades R to 9). In relation to these curriculum expectations the majority of Grade 3 learners are performing at or below Grade 2 numeracy and reading levels while many Grade 6 learners are not able to perform mathematics and reading tasks expected at the Grade 3 level. Throughout the school, low levels of reading and writing severely affect learners' capacity to progress in any academic activity, including mathematics.

When linked to the data on classroom observations and school management, the results of the assessment studies suggest that the following measures are likely to have the strongest effects on learner performance:

- Focusing on clear outcome standards for each Grade in literacy and numeracy. For example: "By the end of Grade 2 learners should be able to add, subtract and multiply two numbers up to a minimum of 999".
- Maintaining a close system of monitoring and supporting teachers in achieving these outcomes at the end of each Grade. Such curriculum management should be administered at both the district and school levels, and includes:
 - Planning and monitoring coverage of the intended curriculum
 - Ensuring that books and stationery are available and used daily
 - Moderating regular assessment exercises and using the results to improve instruction
- Focusing on the comprehension skills of the learners, particularly their ability to deal with extended reading passages and responding in writing to questions requiring a critical understanding of the passage.
- Weaning learners from an over-reliance on 'concrete' methods for solving arithmetic problems, which severely retards their ability to develop and utilise a flexible understanding of the number system as the foundation for all higher order problem-solving skills in mathematics.
- Systematically training teachers to meet these requirements.

Very few school development programmes currently operating in South Africa attempt to ascertain in any detail the knowledge needs of the pupils, teachers and managers in participating schools.

While the intended curriculum gives a map and shows the destination of schooling, if we don't know where our children are on the map then we don't know what direction to proceed in. Consequently, intervention programmes cannot be designed around these needs, nor can they assess progress of the programme against learner performance.

Part of the problem is that the architects of such programmes often assume that probing knowledge needs does violence to the self image of pupils and teachers, and implies a deficit model of school reform; consequently, they are self conscious about including accountability measures in their programmes. Certainly, the process and results of research into the problems which give rise to the poor learning situation in so many South African schools need to be handled with sensitivity and according to the highest ethical standards. However, our systemic theory of school reform predicts that omitting the use of pupil performance in designing and monitoring these interventions robs them of significant power, and ultimately does far more damage to the lives of the pupils, through lost opportunity than any amount of testing could ever do.

Applying these monitoring mechanisms requires not only that district officials and school principals support these processes, but indeed that they put their full authority behind driving them. This is the ideal of systemic reform: institutional managers should be instrumental in identifying their own needs, formulating appropriate support measures, and monitoring progress. Under these conditions, the support and training agencies assist in achieving the policy and practice priorities of the public sector.

Financial management

Many of the provinces experienced substantial overruns on educational expenditure in 1997. Since then the Minister of Finance has not only exercised strict control over spending, but has also effected measures to shift the spending ratio of personnel to non-personnel items so as to free up more money for capital items. While there is now much better financial control, many provinces are still having difficulties in spending their capital budgets (Report to Parliament by the Minister of Finance, October 2001; National Treasury, 2001). It is a great irony that in a country of such great poverty where hundreds of thousands of children are schooled under very difficult conditions, often without books, hundreds of millions of Rand remain unspent every year because of management deficiencies in several Departments of Education.

Organisational Development and Management

There is wide recognition of the fact that the interface between the macro accountability mechanisms – directed from national and provincial levels – and the sites of their application – schools – is a very weak link in the schooling chain. Districts and circuits constitute this interface, and they also serve to identify and apply appropriate support measures to assist schools in meeting their accountability targets. Restructuring of districts in order to serve these vital functions better is underway in most provinces, but there is a long way to go before they are capacitated and equipped to provide effective monitoring and support services to schools.

The performance management of individuals is confined to the highest levels of the system, and there is little personal accountability for the vast majority of educators. Instituting the microtechnologies necessary for ensuring the accountability and development of professional and administrative staff on a day to day basis is an urgent need. Chief amongst these must be a performance management system, through which the work of individuals, teams and institutions as a whole would be planned, supported and monitored, and through which inefficiencies and development needs are identified and remedied. While it is true that the work of senior civil servants is beginning to be regulated through performance contracts, in the absence of the necessary management systems, these officials have few tools at their disposal to ensure that their subordinates, in turn, play their respective roles in meeting performance targets. Without efficient

management systems, the only means at the disposal of senior managers are the blunt instruments of threats, exhortation, cajoling, and management by 'walking around and shouting'. It is even difficult in the present climate to apply the kinds of extreme measures required in cases of criminality or gross dereliction: as a result, dealing with disciplinary cases can take many months and even years (Ministry of Education, 2001).

Pursuing our hypothesis concerning the improvement in matric results over the last two years, it may just be true that these were achieved as a direct result of the application of these blunt instruments by the Minister of Education and senior officials in the national and provincial departments. However, even if this were true the limits of such measures will be reached very soon, and the only way of hauling in the vast slack of inefficiency and corruption which bloats every corner of the enterprise of public schooling, is through a management system which ensures a better regulation and coordination of workflows, from the office of the Minister through to the classroom of the most junior teacher in the smallest school. The development and implementation of such technology must rank as the most urgent imperative facing every government department.

Three central components of the monitoring system are currently in the pipeline: the National Curriculum Statements, the Systemic Evaluation system intended to test samples of learners at grades 3, 6 and 9, and the assessment of schools by means of the proposed Whole School Evaluation process. Improving management capacity, particularly at district and school levels is key to implementing these monitoring systems effectively.

Educator development: policy and planning

In December 2000 the Minister declared the incorporation of 25 Colleges of Education into 17 Higher Education Institutions (HEIs) with effect from 31 January 2001. The ensuing incorporation process has resulted in the consolidation of teacher education in 28 HEIs and the closing of all colleges. From 2001, for the first time in South Africa's history, teacher education programmes are being offered exclusively by HEIs – universities and technikons.

Systematic supply and demand studies for teacher education have not been undertaken in South Africa, and the absence of reliable data is a hindrance to the development of a comprehensive plan – nationally and by province – for teacher development. However, a significant start was made during 2001 as part of the project which included the incorporation of the Colleges of Education into HEIs, and which began the process of formulating a national plan for teacher education.

The supply/demand component of this project was undertaken by Luis Crouch (2001) and concludes that there is a looming imbalance between teacher supply and demand. According to the most likely scenario developed by Crouch, this imbalance will require training 30 000 new teachers each year for the next ten years. The assumptions on which these projections are based take account of normal attrition, and deaths from AIDS-related causes. Just over 13 000 students are enrolled in initial teacher education programmes currently. It is clear then that the number of student teachers will need to be increased two or three fold if South Africa is just to keep pace with natural and AIDS-related attrition.

Table 2: Number of students in initial teacher programmes in 2001 (JET, 2001)

Province	No of HEIs offering teacher education	Students in initial teacher programmes in 2001
Eastern Cape	6	1370**
Free State	3	1236
Gauteng	3	2793
KwaZulu Natal	4	1667
Mpumulanga	1*	301
Northern Cape	1*	243

Northern Province	2	1234
North West	2	1912
Western Cape	5	2334
Total	28	13 005

*Higher Education Institutes

** Excludes Unitra, for which no figures were available

Resolution No 7 of 1998 of the Educator Labour Relations Council (ELRC, 1998) establishes that teachers may be required to attend programmes for ongoing professional development, up to a maximum of 80 hours per year, and that these programmes are to be conducted outside the formal school day or during vacations. In addition, the Council voted R120 m for funding INSET, and it must be frustrating to teachers that the opportunity posed by these decisions has not yet been taken up to any significant degree.

The process for programme accreditation is complex and time-consuming, but some progress is at last being made. Thus guidelines have been issued for the delivery of the new National Professional Diploma in Education (DoE/ELRC/SACE, 2001), to be offered from 2002 and aimed at upgrading the qualifications of under-qualified teachers, and equipping them with the competencies specified by the Norms and Standards.

The discussion document *Funding of Public Higher Education: a New Framework* issued by the DoE, as part of the proposed new National Plan for Higher Education, proposes a new funding framework as a 'steering mechanism' to meet the goals and targets for the transformation of the higher education system. The funding framework and the planning process will be the main levers by which the goals of the new National Plan for Higher Education will be achieved. Alignment between the funding formula and national and institutional planning will occur through block grants and planned enrolments. The block grants or teaching subsidies will be paid to higher education institutions at a set Rand price per FTE student. Four additional sources of funding are available for teacher education programmes: bursaries available through the ELRC for teachers applying to study the NDPE, R20 m of National Student Financial Aid Scheme funds earmarked for trainee teachers, skills levy money channelled through the ETDP SETA, and conditional grants offered to the provinces through the DoE.

The DoE is currently pulling together the above policy elements into a coherent plan for Educator Development and Support (EDS). While the funding formula of the National Plan for HE will provide accountability and incentive measures for teacher education, the EDS plan will give direction for the design and delivery by the HEIs. In order to serve these purposes, the plan will need to contain guidelines on:

- Projected quantitative needs of the system, by province, for at least the next 5 years
- The development of cost effective models for the delivery of teacher training programmes, in the light of the enormous scale of PRESET and INSET needs.
- The identification of priorities concerning types of training courses, with quantitative targets. For example:
 - Target 1: orientation for all teachers on the new curriculum.
 - Target 2: management training for principals and district managers
 - Target 3: delivery of the NDPE to under-qualified teachers
 - Target 4: higher level programmes to improve knowledge and skills of all teachers
- Funding mechanisms, including the incentivisation of priority courses
- Accreditation arrangements

In the absence of these guidelines the HEIs are working somewhat in the dark, although the DoE is about to publish a funding framework which should clarify government's intentions considerably.

Research

Research on schooling in South Africa is not well developed, and this is another area in which Departments of Education could give the lead, by commissioning research studies, and which presents the HEIs with new fields of opportunity. Three broad fields require investigation:

- While there is significant activity at the level of policy advocacy and critique, much of this work is polemical and anecdotal, with a weak empirical base.
- Some very illuminating empirical work is being done at classroom level (see, for example, Adler forthcoming, Jacklin, 2001), but this is confined to the micro level and it is not clear what it means for policy and practise at the level of the system.
- There is a desperate shortage of information on the shape and nature of the system as a whole, on the impact of policy, and on the relationship between micro-level classroom research and the macro picture. Virtually every accountability and support category described above and below requires illumination, through information, description and analysis. In particular, large-scale longitudinal studies which attempt to identify those school and classroom level variables which most affect pupil learning would serve to sharpen the design and implementation of school development programmes.

SUPPORT MEASURES

Development appraisal.

This is being implemented in one or two provinces, but in general the initiative seems to be in limbo, and therefore represents another missed opportunity for identifying the development needs of teachers and managers, and for tracking the results of support measures.

Provision of textbooks, stationery and other cognitive resources.

Progression in school learning is essentially about learning to read and write at successively higher levels of cognitive complexity, while the different school subjects represent distinct areas of specialised knowledge and language. It follows that the quality of learning at each level crucially depends on the presence and productive use of good textbooks and other reading and writing materials.

Following the expenditure overruns in many provinces in 1997, and the strict regime demanded by the national treasury in subsequent years, spending on books and stationery plummeted from a total of around R900 million in 1995/6 to a low of about R80 million in 1997/8 (Taylor and Vinjevd, 1999). Table 3 shows that in this area, too, government is steadily improving the budget allocation for books and stationery. Expenditure also seems to have improved, although a number of provinces regularly fail to spend their book budgets.

Year	Budget allocation	Percent increase	Expenditure	Expend as a % of budget
1998/99	392,6			
1999/00	794,7	102%	769,4	96.8%
2000/01	920,2	15,8%		

Source: Compiled from Ministry of Education (2001)

In terms of the delivery of books to schools in time for the start of the 2001 calendar, the provinces exhibited mixed fortunes, with no information available for KwaZulu/ Natal, and success in the other provinces generally around the 80 – 90% levels, except for the Eastern Cape, Mpumulanga

and the Northern Province, where delivery was estimated at 24%, 60% and 70%, respectively (Ministry of Education, 2001). This is a continuing problem, and the pattern seems to be repeating itself in 2002 (Business Day, 17 Jan 2002).

Educator development: provision

The state of learner performance described above supports the conclusions of classroom-based research (Taylor and Vinjevold, 1999) concerning the low levels of knowledge on the part of teachers concerning the subjects they teach. In this regard, structured reading and numeracy INSET programmes stand out as urgent priorities for teachers at the Foundation and Intermediate phases, as do programmes which systematically take Senior phase teachers through the content of their specialised subject areas.

Much of the INSET associated with school development programmes at present is undertaken by NGOs, through short workshop-based courses. Such courses can be effective in: providing information and orientation to new policies, inspiring and planning individual and institutional change, and developing management systems. However, this form of INSET is a very weak intervention in building the deep knowledge structures and professional ethos required for the long-term qualitative improvement of teaching and learning. The universities have largely not been involved in this kind of work, but opportunities now abound for them here, and already there are some very promising developments, with HEI's beginning to participate in some large school development programmes.

There would seem to be room for the HEI providers to offer accredited two or three year courses for school managers and teachers, directed by a focus on improving the delivery of the curriculum, by strengthening school level management and classroom instruction. The almost exclusive focus in the past on pedagogy through INSET courses for teachers - a tendency greatly aggravated by the process oriented Curriculum 2005 - needs to be supplemented by an approach which places centre stage the quality of the knowledge transactions which occur between teacher and pupil: this would include the subject knowledge of teachers and their pedagogical content knowledge. Coverage of the curriculum to the standard appropriate to the grade being taught, and the effective use of reading and writing activities should be integral to such programmes. Ideally, an in-school support and mentoring component would be included, contracted out to NGO and commercial service providers.

CONCLUSION

The provision of schools, teachers and other resources by the state does not guarantee opportunity to learn, or at least not opportunity of any quality. The quality of schooling is amenable to improvement by fitting these resources together optimally and leveraging higher levels of performance, through the deployment of a suite of accountability and support measures. Collectively, these measures:

- Set targets in the form of performance standards.
- Monitor the delivery of these targets.
- Provide training, resources and support to enable teachers, principals and other officials to meet the expected standards.

This set of measures may be summarised as follows

APPLIED BY	ACCOUNTABILITY (Demand-pull, extrinsic)	SUPPORT (Supply-push, intrinsic)
Government	Organisational development	
	Curriculum framework	
	Learner Assessment	
	School monitoring	
	HR management	
		On-site support and mentoring
		Buildings and equipment
Teacher unions and professional associations		Books and stationery
		Inset, professional development
Donors	Sources: foreign governments (bilateral) or local private sector Support to: government, HEIs, NGOs Resources for: accountability, support	
Higher Education Institutions		Professional development programmes: Leadership & Management, Teacher knowledge. Issues: <ul style="list-style-type: none"> • Inset/preset • Accreditation • Delivery mode
	Research: micro and macro	
NGOs and commercial service companies		Short courses on: <ul style="list-style-type: none"> • Orientation to the new curriculum • Inspiring and planning development
	Research: micro and macro	
		Systems development
		Mentoring and other on-site support
Media	Public debate	

The South African schooling system is characterised by very low levels of accountability and efficiency. This results in a significant diminution in the opportunity to learn, particularly in poorer schools. Inefficiency thus exacerbates inequality. Under these conditions it is likely that small moves in the direction of improved accountability will, on their own, result in significant gains in performance. This may be the explanation for improvements in the matric results in 2000 and 2001. This form of accountability is a blunt instrument when directed from Pretoria and the provincial capitals and, on its own, its impact is likely to reach a rather low ceiling. In order to leverage further gains three additional kinds of measures will need to be implemented.

First, the monitoring of schools according to pupil performance must be devolved to the line management responsibilities of district managers and school principals. This will not be a simple task because, in effect, it means building a systematic curriculum management subsystem, through which the delivery of the curriculum is planned and monitored throughout the school. This will require benchmarking and tracking results at least at the end of each school phase (grades 3, 6 and

9). It is important to take account of the socio-economic status of schools and their parent communities in monitoring performance: raw league tables can be very misleading, often masking gross underperformance by well resourced schools, and heroic efforts by poor schools under difficult circumstances. Thus, while benchmarks such as the NCS provide ideal goals, specific, realistic targets need to be set for each school. School governing bodies can play a role in holding principals accountable for pupil performance.

Second, additional accountability measures – such as school inspections – will complement monitoring by pupil performance, and reinforce the effects of such monitoring. The danger with all accountability mechanisms is that they too easily slip into excess. Thus, there is a fine line between necessary authority exercised in management situations, on one hand, and authoritarianism, on the other; and between holding teachers, schools and districts accountable for the performance of their learners, on one hand, and an obsession with exam techniques and results to the detriment of higher order knowledge and skills, on the other.

In the absence of accountability sub-systems, support measures are very much a hit and miss affair. Accountability measures provide motivation for and direction to support measures, by identifying capacity shortcomings, establishing outcome targets, and setting in place incentives and sanctions which motivate and constrain teachers and managers throughout the system to apply the lessons learned on training courses in their daily work practices. Without these, support measures are like trying to push a piece of string: with the best will in the world, it has nowhere to go.

Conversely, the performance gains achieved by accountability measures, however efficiently implemented, will reach a ceiling when the lack of leadership and technical skills on the part of managers, and curricular knowledge on the part of teachers, places a limit on improved performance. Thus, the third step in improving the quality of schooling is to provide targeted training programmes to managers and teachers. To achieve optimal effects, these will need to connect up with and be steered by accountability measures.

Donor- and NGO-initiated school reform programmes have a subordinate role to play in the greater scheme of things: at best they should aim to assist national and provincial departments of education to achieve their policy priorities. At present the majority of these non-government initiatives operate in inside-out mode, concentrating mainly on support measures the impact of which is curtailed through the absence of accountability frameworks. The present analysis indicates that the integration of supply and demand mechanisms can only be effectively achieved once government officials take charge and direct the resources offered by the non-government sector, within the framework of public policy. A major factor inhibiting such coordination is the absence of the management technology required to systematically plan, implement, monitor and support this kind of activity in the public sector.

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