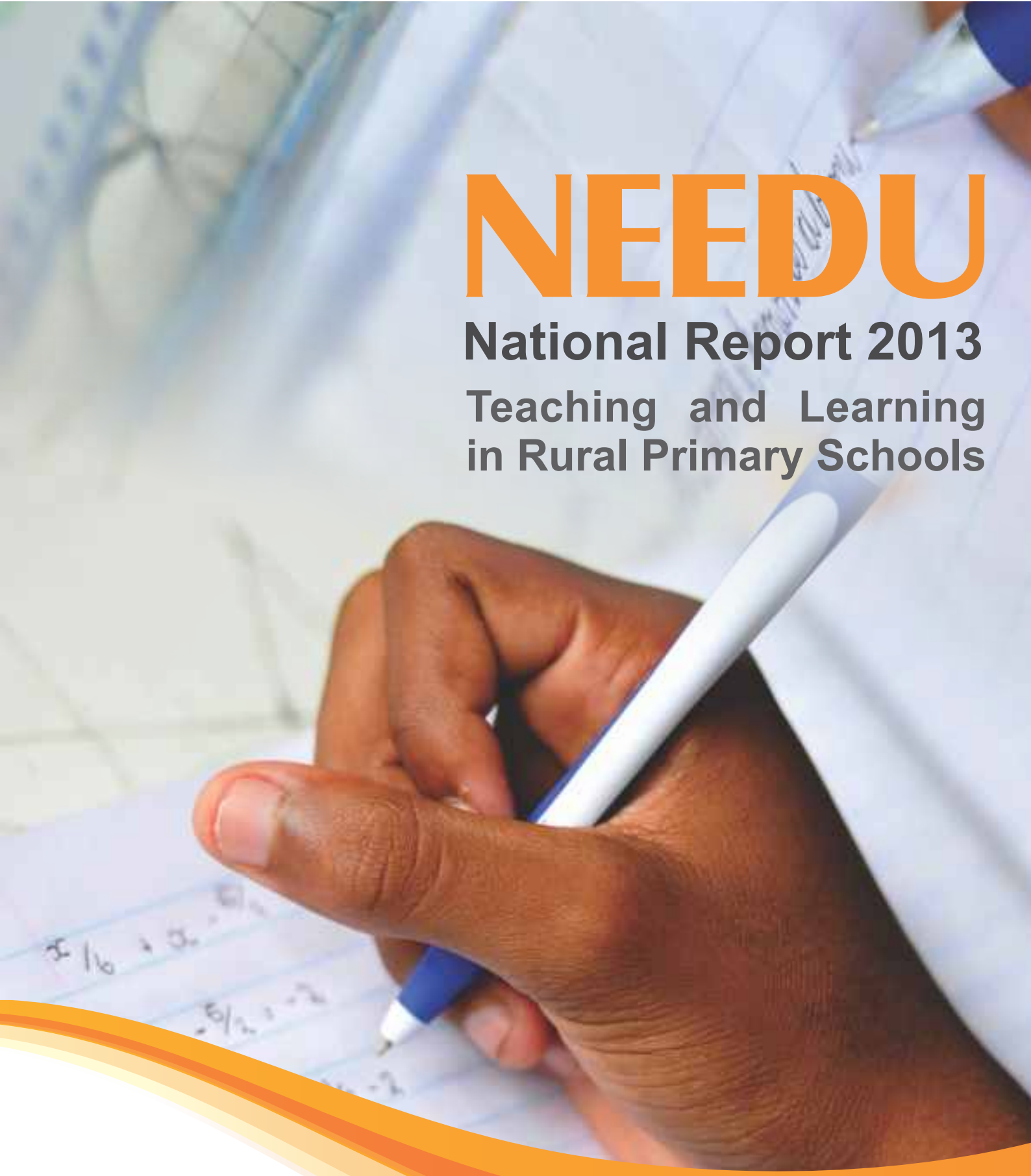

# NEEDU

## National Report 2013

## Teaching and Learning in Rural Primary Schools

NEEDU

NATIONAL EDUCATION EVALUATION & DEVELOPMENT UNIT

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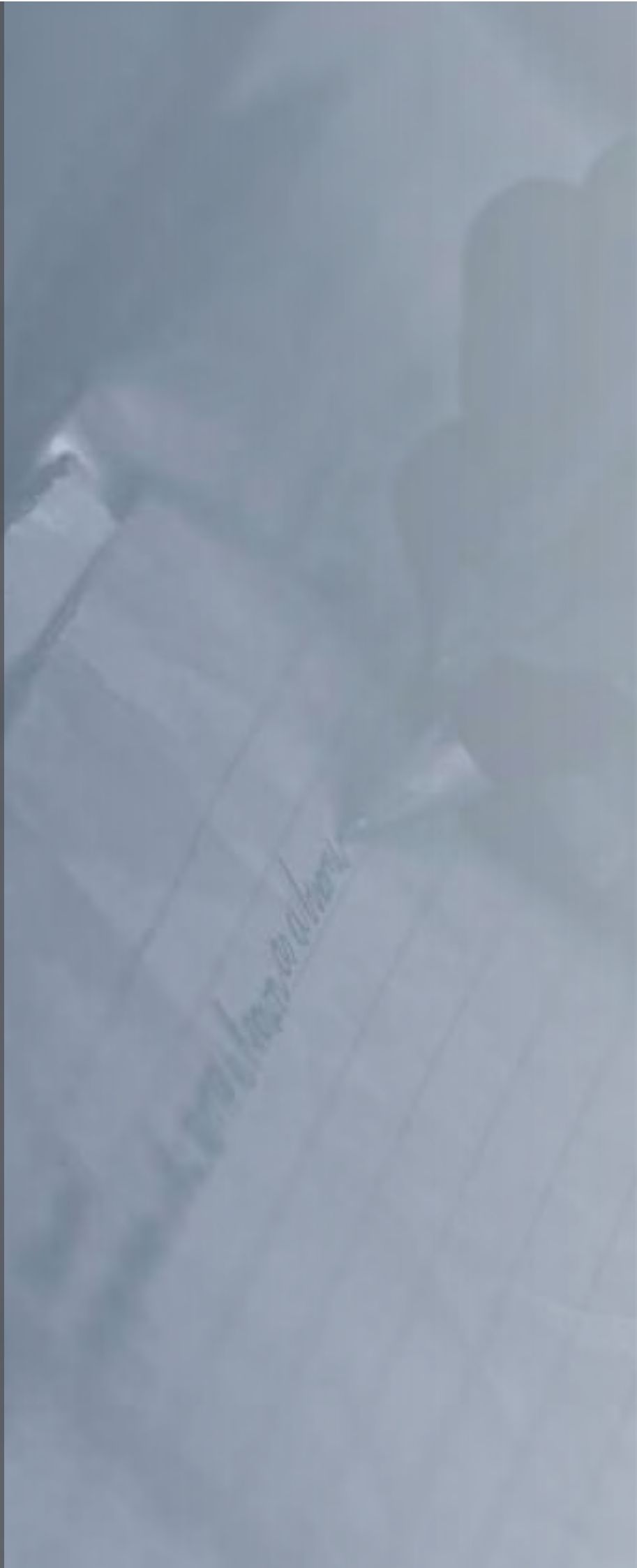

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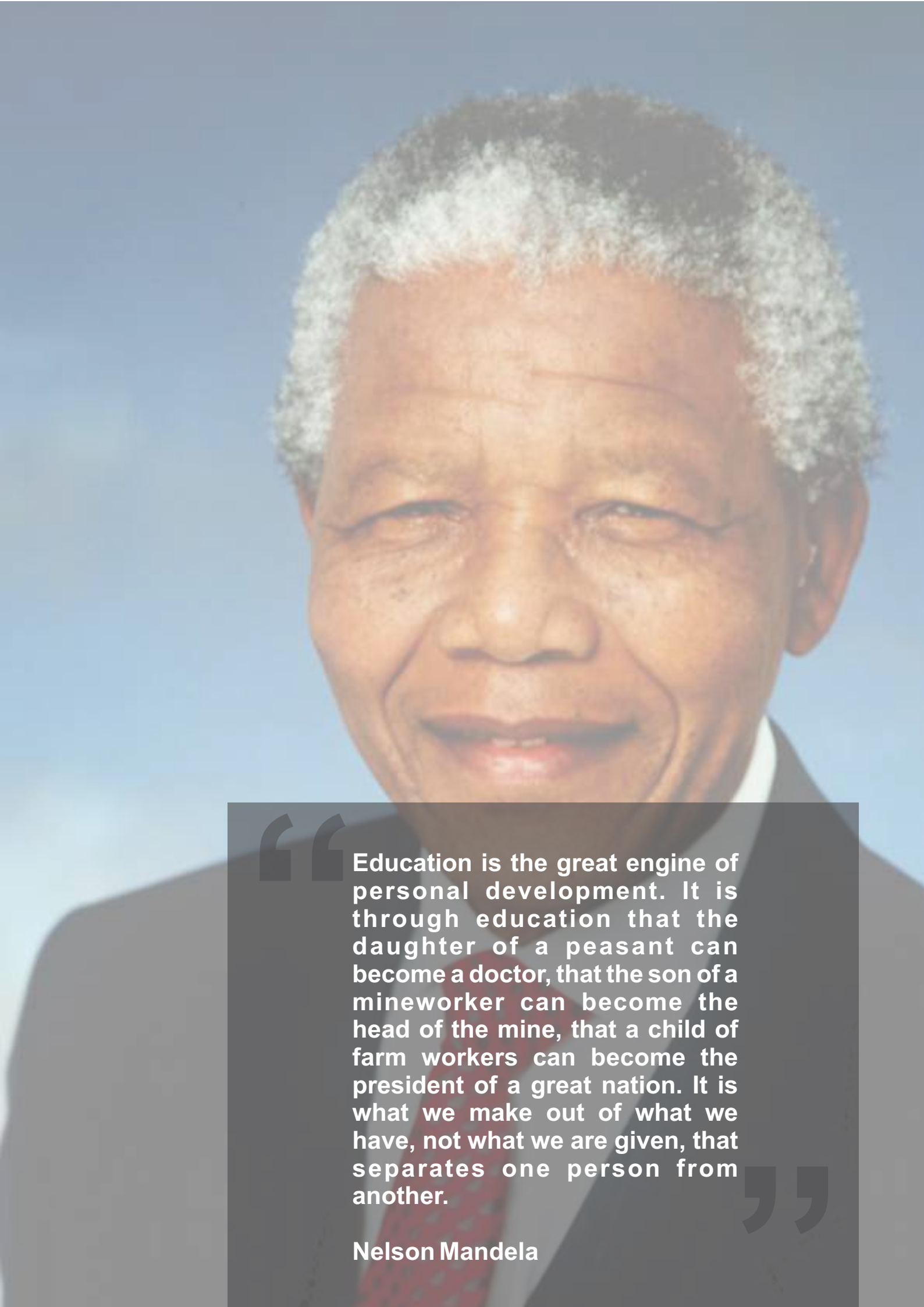

“Education is the great engine of personal development. It is through education that the daughter of a peasant can become a doctor, that the son of a mineworker can become the head of the mine, that a child of farm workers can become the president of a great nation. It is what we make out of what we have, not what we are given, that separates one person from another.”

Nelson Mandela

NEEDU
National Report 2013
Teaching and Learning in Rural Primary Schools

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# Acronyms and Abbreviations

| | |
|---|---|
| ANA | Annual National Assessment |
| APIP | Academic Performance Improvement Plan |
| ASIDI | Accelerated Schools Infrastructure Delivery Initiative |
| CAPS | Curriculum and Assessment Policy Statements |
| CHE | Council on Higher Education |
| CEM | Council of Education Ministers |
| CEMIS | Central Education Management Information System |
| CM | Circuit Manager |
| DBE | Department of Basic Education |
| DD | District Director |
| DG | Director General |
| DOE | Department of Education |
| DPME | Department of Public Monitoring and Evaluation |
| ECDE | Eastern Cape Department of Education |
| EGRA | Early Grade Reading Assessment |
| ELRC | Education Labour Relations Council |
| EMIS | Education Management Information System |
| ESR | Educator-to-school ratio |
| FAL | First Additional Language |
| FET | Further Education and Training |
| FP | Foundation Phase |
| FSDE | Free State Department of Education |
| GDE | Gauteng Department of Education |
| GET | General Education and Training |
| GPLMS | Gauteng Primary Language and Mathematics Strategy |
| HL | Home Language |
| HOD | Head of Department (applied to a school or a province) |
| HR | Human Resource |
| INLNS | Integrated National Literacy and Numeracy Strategy |
| INSET | In-service Training |
| InterSen | Intermediate and Senior (Phases) |
| IQMS | Integrated Quality Management System |
| IP | Intermediate Phase |
| ITE | Initial Teacher Education |
| KZNDE | KwaZulu-Natal Department of Education |
| LATE | Local Average Treatment Effect |
| LDE | Limpopo Department of Education |
| LER | Learner-to-educator ratio |
| LNS | LitNum Strategy |
| LOLT | Language of Learning and Teaching |
| LSEN | Learners with Special Education Needs |
| LSR | Learner-to-school ratio |
| MBE | Minister of Basic Education |
| MCRE | Ministerial Committee on Rural Education |
| MDE | Mpumalanga Department of Education |
| MEC | Member of the Executive Council |
| NCDE | Northern Cape Department of Education |
| NCLB | No Child Left Behind |
| NEEDU | National Education Evaluation and Development Unit |
| NEPA | National Education Policy Act |
| NDP | National Development Plan |
| NMF | Nelson Mandela Foundation |
| NGO | Non-governmental Organisation |
| NNSSF | National Norms and Standards for School Funding |
| NSC | National Senior Certificate |
| NSES | National School Effectiveness Study |
| NSNP | National School Nutrition Programme |
| NWDE | North West Department of Education |
| ORF | Oral Reading Fluency |
| OSD | Occupational-specific Dispensation |
| PDE | Provincial Department of Education |
| PIRLS | Progress in International Reading Literacy Study |
| PP | Percentage Points |
| RCT | Randomised Control Trial |
| RTI | Research Triangle Institute |
| SA | Subject Advisor |
| SACE | South African Council for Educators |
| SACMEQ | Southern and Eastern African Consortium for Monitoring Educational Quality |
| SADTU | South African Democratic Teachers' Union |
| SAIP | Subject Academic Improvement Plan |
| SA-SAMS | South African School Administration and Management System |
| SBA | School-Based Assessment |
| SDP | School Development Plan |
| SGB | School Governing Body |
| SIP | School Improvement Plan |
| SMRS | Systematic Method for Reading Success |
| SMT | School Management Team |
| STARS | School Transformation and Reform Strategy |
| TIMSS | Trends in International Mathematics and Science Study |
| WCED | Western Cape Education Department |
| WCPM | Words Correct per Minute |

# The NEEDU Brief 1

The National Education Evaluation and Development Unit (NEEDU) has been designed as an evaluation and development institution, which is independent of that part of the civil service responsible for the administration of schools. Following the recommendations of a ministerial committee set up by Minister Pandor in 2008, NEEDU was established shortly after Minister Motshekga was appointed in 2009. NEEDU reports directly to the Minister of Basic Education (MBE). Currently NEEDU is an 'organisation in the making', awaiting approval from Cabinet for its establishment as an independent government component. In the interim, it is operating as an ancillary to the DBE, and is staffed by five members seconded from the Department of Basic Education (DBE) and 24 contract staff members.

NEEDU's brief arises directly from the recommendations of the ministerial committee: identify the factors that inhibit or advance school improvement; analyse and identify approaches and strategies necessary for achieving equality in the provision of quality education; evaluate the way in which provincial departments of education (PDEs) monitor and evaluate schools; evaluate the support that schools receive from the education districts and departments; and evaluate the state of South African schools – in particular, the quality of school leadership, teaching and learning (Department of Education, 2009). Following this analysis, NEEDU is to make proposals for remedying shortcomings in educational practice; eliminating barriers to quality education; emulating examples of good practice; developing the knowledge and professional capacity of educators; and improving the support that education districts and departments provide to schools.

In fulfilling this brief, NEEDU's plan is to investigate all phases of schooling and all school districts over a four-year cycle, the details of which are discussed in section 3 below. In 2012 the sample of schools evaluated consisted of urban schools and in 2013 it was decided to visit schools in rural areas, a significant proportion of which were organised on multigrade lines, where learners situated at more than one grade level occupy the same class. We begin by discussing some of the conditions in these rural areas.

# Schooling In Rural Areas 2

According to the DBE 2012 schools database, of the nearly 26 000[1] schools in South Africa, just over 13 000[2] are listed as rural. This accounts for half of the ordinary schools in the country. However, given the generally small size of these schools, they cater for around 30 % of learners.

## 2.1 The challenges of rural education

In mid-2003, the Nelson Mandela Foundation (NMF) published the *Emerging Voices* report, based on a survey of nearly 600 households and 144 primary schools and participatory research with nine communities in rural areas of Limpopo, KwaZulu-Natal, and the Eastern Cape (Nelson Mandela Foundation/Human Sciences Research Council/Education Policy Consortium, 2004). The product of this research was a report detailing what rural children in these areas experience as education and what the communities think needs to be done to deal with the problems these children face. The report highlights the lack of priority given to rural education by presenting three main arguments: urban constituencies are more vocal and organised than rural constituencies and therefore get more attention; the government is insufficiently sensitive to the needs of the rural poor; social inequalities need to be addressed before the quality of rural education can improve.

Shortly after the NMF/Human Sciences Research Council/Education Policy Consortium study, Minister of Education Naledi Pandor established a ministerial committee to conduct an investigation of rural schooling, aimed at providing practical recommendations to help the Department of Education (DOE) and the PDEs develop an integrated multi-faceted plan of action for improving the quality of schooling in rural areas (Department of Education, 2005; Chisholm, 2006). The first problem faced by the Ministerial Committee on

1. 25 826 Public and Independent Schools in South Africa in 2012
2. 13 192 Rural Schools

Rural Education (MCRE) was how to define rural schools. The need for a focused definition useful for the kind of information gathering, monitoring and evaluation necessary for a state-driven intervention programme for rural schooling led the committee to adopt the quantitative definition of 'rural' used by Statistics South Africa in the 2001 census. This was a spatial definition encompassing traditional authority areas (primarily 'community-owned' land in the erstwhile 'homelands') and formal rural areas (primarily commercial farms in erstwhile 'white' areas of South Africa). The MCRE considered this an appropriate definition, since the available resources in these areas differ markedly from those available in urban areas.

While this definition does serve the purpose of delineating rural schools that share a number of characteristics, it is problematic in at least two ways. First, rural schools in former homeland areas have much in common with schools at varying distances from small towns and villages scattered throughout the former 'white' areas. Chief among these shared characteristics is poverty, which is as rife in certain townships and settlements as it is in the deepest rural village.

Second, farm schools have a unique history and legal status that sets them apart from other rural schools. For these reasons, NEEDU adopted a dual strategy towards evaluating rural schools in 2013. During the first semester of the year rural schools characterised by a monograde structure were sampled across the country, in both former homeland and former 'white' areas, using a geographical yardstick – distance from larger towns – to identify them. During the second semester schools organised on multigrade lines were sampled for evaluation. Many of these were situated on farms.

Rural schools, of both monograde and multigrade types, are generally perceived to be less well provided with infrastructure than their urban and suburban counterparts. For example, while noting that significant infrastructural improvements have been made in rural schools since 1994, many rural schools still lacked running water, electricity, libraries, laboratories and computers in 2008 (Gardiner, 2008).

The provision of education for families of farm workers has particular difficulties. This is largely owing to the way in which farm schools were created and managed during the apartheid era (Wilson, 2002). These schools were historically set up to service the children of farm labourers and as a result, the success of the school often depended on, and was vulnerable to, the farmer on whose land the school was built. Data collected from the school visits by NEEDU evaluators in 2013 suggest that this remains the case, although there is a wide diversity of experience in this regard (see 3.5 below). The farm schools also typically serve the most impoverished communities (Wilson, 2002). The dual responsibility for cost of the buildings and provision of utilities – both public and private – is not ideal. This sharing of responsibility and the management of a public school on private land are fraught with difficulties (Mbelle, 2004).

Perhaps the greatest challenge faced by rural schools is the lack of sufficient and sufficiently qualified teaching staff. Teachers and learners often live far from the school and access is difficult. Poor roads and lack of public transport make daily commuting to schools time-consuming and difficult. Inclement weather severely affects the learners' and teachers' ability to get to school regularly and on time. Given the difficulties associated with teaching in rural schools, it is no surprise that attracting and keeping qualified teachers is a challenge. Qualified teachers prefer to live and work closer to towns and this leaves rural schools with unqualified or under-qualified teachers. The rural-urban disparity in living conditions is a major constraint on attracting teachers to rural areas (Mulkeen & Chen, 2008). The lack of good teachers in rural schools is one of the key constraints in eradicating poverty (Chakanika, Noah, Phyllis, & Nduna, 2012) as rural people are often caught in a vicious cycle of having no access to quality education and hence to opportunities that may lift them out of poverty. Poor education leads to high levels of illiteracy and perpetuates underdevelopment (Mulkeen & Chen, 2008).

## 2.2 Multigrade teaching in rural schools

One of the major challenges that rural schools have to face is small learner enrolments. Since teaching posts are allocated according to learner numbers, and very small schools are allocated a minimum of two educators, including the principal, combining learners of different grades into a single class in a multigrade arrangement is the only viable option. This arrangement is not unique to South Africa. In general, the extent of multigrade schools in developed countries such as England (25%) and Austria (25%) is lower, while in developing countries such as Peru (73%) and India (84%), the incidence is much higher (Chaka & Weber, 2011).

Multigrade classes are typically found in, although not exclusive to, rural schools. According to the DBE Education Management Information System (EMIS) data, 27% of rural schools had one or more multigrade class in 2012. Multigrade teachers are responsible for teaching all the learners at different grade levels at the same time. Of the more than 3 500 schools with multigrade classes, the majority are in the Eastern Cape (35%) and KwaZulu-Natal (29%)[3]. In schools that have one or more multigrade class, there are 8 541 multigrade classes, at an average of 2.39 per school. Just over 24 700 teachers teach in these classes (Table 1).

3. KZN educator data for rural and multigrade classes are not available. The numbers have been estimated by the DBE based on national averages

**Table 1: DBE 2013 EMIS statistics for multigrade schools**

| Province | Number of Schools with Multigrade Classes | Number of Multigrade Classes | Educator Numbers | Learner Numbers |
|---|---|---|---|---|
| Eastern Cape (EC) | 1 248 | 3 071 | 8 263 | 201 722 |
| Free State (FS) | 145 | 328 | 477 | 9 281 |
| Gauteng (GP) | 16 | 38 | 103 | 3 336 |
| Kwazulu Natal (KZN) | 1 024 | 2 302 | 7099* | 179 828* |
| Limpopo (LP) | 531 | 1 298 | 2 760 | 72 288 |
| Mpumalanga (MP) | 211 | 570 | 3 911 | 115 322 |
| Northern Cape (NC) | 92 | 226 | 554 | 14 975 |
| North West (NW) | 8 | 36 | 79 | 2 402 |
| Western Cape (WC) | 295 | 672 | 1 504 | 34 475 |
| **TOTAL** | **3 570** | **8 541** | **24 750** | **633 629** |

* Numbers have been estimated by the DBE based on national average

There were more than 12 million[4] learners in both public and private South African schools in 2012 (Department of Basic Education, 2013d), 14% of schools had multigrade classes and 5% of all learners were taught in these classes.

## 2.3 Government response to the plight of rural schooling

In response to the conditions described above, the MCRE made 82 recommendations aimed at improving the quality of rural schooling (Department of Education, 2005). Recommendation 71 called on the DOE to set up a facility responsible for rural schooling that would provide a coordinating function across all branches and between the DOE and the PDEs, the DOE and other government departments and non-government sectors. In response, a Directorate of Rural Education was established in the DOE in 2006. However, this was a short-lived initiative, which was disbanded in 2010, apparently on the assumption that many of the problems of rural schools equally affected urban schools serving poor children, and that these problems were best addressed across the board.

Over the last decade government has significantly stepped up measures aimed at alleviating the poverty experienced by large numbers of South Africans. With respect to the impact of poverty on the lives of children, perhaps the most significant of these measures is the National School Nutrition Programme (NSNP), through which meals were provided to 9 159 773 learners (73% of the total learner population) in 21 400 (83%) primary and secondary schools in the period 2012/13 (Department of Basic Education, 2013a). Closely allied to the NSNP is the system of social grants, which cost the Treasury R118 billion and was of benefit to 15.8 million recipients in 2013/14 (Treasury, 2014).

With regard to infrastructure backlogs in poor schools, the Accelerated Schools Infrastructure Delivery Initiative (ASIDI) of the DBE aims to replace 510 inappropriate structures across the country, supply 939 schools with sanitation and 1 145 with water, and eradicate all mud schools. Early in 2014 the Ministry of Basic Education announced that of the four ASIDI targets set for 2011/12 and 2012/13, two (replacing inappropriate schools and supplying water) had been exceeded, while the other two (electrifying schools and providing sanitation) were close to being met (Department of Basic Education, 2014a). In 2013 the DBE introduced a district-based programme aimed at recruiting teacher trainees from rural and poor communities to assist them in accessing Funza Lushaka bursaries, on the assumption that teachers recruited in this way are more likely to return to their rural roots to work than their urban counterparts. With respect to multigrade teaching, the DBE and PDEs are increasingly supporting teachers to undergo specialist training and to use the multigrade toolkits developed by the DBE.

In 2003 the DBE formulated a plan to provide special allowances to teachers working in rural schools. These were variably taken up in the different provinces, but it seems that they have, by and large, not been implemented as designed, if at all. Another set of recommendations eliciting a variable response from provinces concerns the consolidation of rural schools into larger units, accompanied by the provision of hostel accommodation for children living beyond a certain radius from the school. In some provinces, notably the Free State (see Box 2 for details), an aggressive programme of hostel building is linked to the provision of staff housing.

Many of the MCRE recommendations remain as much a concern for urban schools as they are for their rural counterparts. These include the generally poor implementation of the curriculum, the need for thorough-going teacher professional development, the role and capacity of districts and the monitoring and evaluation of schools. These issues were central to NEEDU's evaluation of rural schools in 2013, the findings of which are described in the pages that follow, where they complement those derived from the urban schools visited in 2012.

4. 12 428 069 learners in both public and private schools in 2012

# 3 Research Design And Method

The broad features of South African schooling are well known (Taylor, et al., 2013): ill-discipline and poor time usage render many schools, districts and some provinces dysfunctional to a greater or lesser extent; educator subject knowledge is weak; teachers proceed at a pace and cognitive pitch far below curriculum specifications; and too little speaking, reading and writing by learners impede their learning.

Although large-scale statistical analyses of the South African system remain relatively rare, the few studies that have been done reveal consistent correlations between indicators representing these features and learner test scores (Carnoy, Chisholm, & Chilisa, 2011; Taylor et al., 2013). However, averages across large samples help little in understanding the dynamics of individual institutions, and mathematical associations between isolated indicators and learning outcomes do not reveal how to orchestrate current practices differently. Rather than aiming for a generalisable sample, NEEDU has proceeded along two different tracks.

First, the evaluations reported below have investigated the extent to which policies and practices exhibit congruence between the national DBE, provincial and district offices, school leaders and teachers. The nested structure of schooling assumes that these successive levels interact to assist teachers to nurture learning in their classes. We use the notion of instructional leadership (see section 3.2 below) to guide our investigation into these interactions in 34 vertical cross-sections through the South African school system, commencing with the national DBE and proceeding via provinces, districts and schools to teachers and learners in their classrooms. This consideration holds particular implications for the sampling procedures adopted by the study, as detailed in section 3.5 below, and for the methods employed in describing individual institutions (sections 3.4, 3.6 and 3.7).

Second, we delineate the features of institutions that are working smoothly, sometimes with the assistance of, and sometimes in spite of, their larger systemic and social contexts (see Box 1, Box 2, Box 4, Box 5 and Box 7). These examples provide both practical advice and inspiration to a generally dispirited system. It is often argued that provinces are so far removed from each other, demographically and culturally, that lessons of policy and practice are not transferable between them. It is true that what is done in one set of circumstances generally cannot be successfully replicated in a different context without adaptation, but we should be cautious not to dismiss illustrations of good leadership, management and teaching, which are applicable everywhere. For example, it should be clear from the extended discussion on post provisioning in section 5.2 that a tight system for collecting, storing and manipulating information – staffed by a network of competent computer operators, data analysts and mathematical modellers – is essential for the management of any system even half as complex as schooling. This applies as much in rural districts as it does in the country's metros.

While the evaluations described below use both quantitative and qualitative research methods, this is a largely qualitative report, in which quantitative data is used descriptively, descriptions of typical institutions are matched against one another and compared with curriculum expectations and with data derived from other systems around the world.

## 3.1 Evaluation questions

Four questions flow from the MBE's brief to NEEDU, outlined in section 1 above:

**Q1:** What is the state of South African schools, and in particular, the quality of school leadership, teaching and learning?

**Q2:** How do the national DBE, provincial education departments and districts direct, monitor, support and evaluate schools?

**Q3:** How can the knowledge and professional capacity of educators best be developed?

**Q4:** Which factors inhibit or advance school improvement, especially with respect to achieving equality in the provision of quality education?

## 3.2 Instructional leadership

Much has been written about leadership in education in the last two decades, signalling consensus about its importance in affecting the quality of schooling. However, there has been disagreement about both the magnitude of its influence and how this is effected. Conceptions of leadership have evolved away from the mechanistic 'direct effects' model that dominated early research, where the assumption was that leadership, exercised by a single individual in a hierarchical relationship with the rest of the school, had a direct influence on student performance (Townsend, Acker-Hocevar, Ballenger, & Place, 2013). In its place has developed a more complex understanding of leadership

as an interactive process (Hallinger & Heck, 2011) emanating from more than one source, with various individuals within the school exercising leadership in complementary ways (Gronn, 2002).

The term instructional leadership was first used by Hallinger and Murphy (1985) to signal the centrality of improving classroom instruction to the work of the principal and other school leaders. A related trend in the literature has been a broadening understanding of leadership to include not only practices within the school but extending to the district and other ambits beyond the school. Reflecting these broader conceptions, the term 'leadership for learning' signals the ensemble of activities that retain a central focus on the core technology of student learning – teaching, curriculum and assessment – while enlisting the other dimensions of schooling – administration, organisation and finance – in the service of a more robust core technology and improved student learning (Murphy, Elliott, Goldring, & Porter, 2007). For Townsend and his colleagues the practice of leadership for learning is designed to create learning at all levels within the system, including learning by students, teachers, organisations and their leaders (Townsend et al., 2013).

A final general point about school leadership concerns the magnitude of its influence, and the perplexing aspect of this discussion is that, while there is wide consensus that it is of critical importance, attempts to quantify its effects on learning outcomes generally end up concluding that it pales into insignificance compared with the far larger influence of home background and teacher quality. Townsend et al. (2013), for example, conclude that the respective weights of these three factors are in the order of 5:40:55. Perhaps the most insightful way of understanding this seeming contradiction is that without sound institutional leadership teachers cannot operate optimally, but once a threshold of leadership practice is in place, learning progress depends largely on the quality of classroom interaction orchestrated by the teacher.

Taylor et al. (2013) drew on the international and South African literature in both the qualitative (Maden, 1996) and quantitative (Leithwood & Wahlstrom, 2008) research traditions to construct an activity-based model of instructional leadership at school level. Fifteen indicators of good school leadership and management practices were derived. The authors used a matched pairs design to compare the strength and quality of these practices in five pairs of schools, each pair matched on poverty level, culture and geographic location, but exhibiting very different learning outcomes. A summary of the results is shown in Table 2.

**Table 2: Association between instructional leadership practices and learning outcomes**

| Instructional leadership practice | Association with better learning |
|---|---|
| 1. **Setting learning goals:** School has a coherent focus on teaching and learning. | **Primary levers for improving learning**<br>Distinct positive association between these practices and learning outcomes |
| 2. **Time management**: Optimal use of time for teaching and learning. | |
| 3. **Parental involvement:** Parents are an integral part of learning systems. | **Useful up to a point**<br>Are associated with better performance, but after a certain threshold these practices add no further value |
| 4. **Governance:** Productive working relationship between school management team (SMT) and school governing body (SGB). | |
| 5. **Union: P**roductive relationship with SMT and SGB. | **No significant effects detected**<br>Either weak positive association with learning outcomes or are neutral<br><br>**Hypothesis**: These practices are generally being conducted in a superficial manner, constituting <u>compliance</u> (filling in forms) rather than in ways that have substantive effects on learning |
| 6. **Regulatory environment**: Clear norms of behaviour and disciplinary procedures. | |
| 7. **Leadership roles:** Clear definition of roles on the SMT, coordination. | |
| 8. **Leadership directly involved**: Management directs curriculum planning, monitoring | |
| 9. **Collegial practice on curriculum delivery**: Routine grade-level and content-focused discussions of curriculum delivery | |
| 10. **Collegial practice on assessment**: Regular discussions on performance and how to assess it | |
| 11. **Books:** Procurement, management and use of books | **Hold the greatest potential for improvement**<br>These practices are hardly detected in the schools, therefore no association could be detected<br><br>**Hypothesis**: Theory indicates that these are the capacities and resources required to exercise <u>substantive</u> instructional leadership practices, especially with respect to 6-10 |
| 12. **Professional attitudes**: Intrinsic motivation, agency | |
| 13. **Induction**: Process of inducting and mentoring new teachers | |
| 14. **Professional development and support:** District expertise used to improve teacher skills | |
| 15. **Language:** Promote proficiency in language of learning and teaching | |

A brief description of one of the matched pairs illustrates how the scheme points out key differences in leadership practices between two schools, very similar in location and culture, but different in performance (Box 1).

## box 1 Contrasting leadership styles in rural schools C1 and C2

These two schools are located in a largely rural district situated in a former 'homeland'. Although this is a rural area some 60 km from the nearest town, it is relatively densely populated, with people living in villages and on smallholdings. Both schools are part of a school improvement project initiated and executed by a corporate donor. The programme assists school leaders to deliver a curriculum that prioritises reading and writing. Tests were administered prior to the intervention in 2008, and again in 2010. The improvements shown by C2 were significantly better than those of C1. Both principals had been at their respective schools for around 20 years, but they exhibited strongly contrasting leadership styles.

At C1 Mr M was autocratic and in conflict with his senior head of department (HOD). Consequently staff exhibited a less than coherent focus on teaching and learning. Teachers worked independently, with little communication on curricular matters. Informants described the principal as dogmatic, adhering to old-school ways contrary to current approaches to leadership, management and teaching. The HOD was frustrated with this state of affairs. Efforts to get parental participation in school affairs had met with little success and no parent meetings had been held for the first nine months of the year. Pupil absenteeism was a problem, but while parents were invited to discuss chronic cases, few responded. School leaders blamed the ineffectiveness of the SGB on poor levels of education among parents. Teachers reported that, although a 'Code for learner behaviour' was displayed on classroom walls and notice boards, staff did not know how to address problems with learner discipline, which was described as 'soft'.

Evaluators saw a very different picture at C2, where the principal, Ms W, pursued a participative approach to leadership. Teachers were enthusiastic and worked together in subject teams. In the field of governance, the HOD described the relationship thus: 'The SGB is the backbone of the school – it is our employer and keeps the school on the straight and narrow.' The deputy principal noted that, given the excellent relationships between all stakeholders, it was relatively easy to solve disciplinary problems. Procedures for dealing with staff disciplinary issues had only been applied once in the recent past. This occurred when a teacher disappeared for two days after pay day. The teacher concerned was dealt with compassionately by the SGB and was 'soon back in the fold', having appreciated the error of his ways.

Regarding time management, the two schools were again very different. Learner attendance at C1 was described as problematic, especially on days when social grants were paid. The 50 members of the choir missed the last period of every day for practice. At C2, on the other hand, all extra-mural activities such as the choir, music, reading, drama and poetry took place after school, while learners often stayed after school under supervision of staff in order to complete assignments.

One of the most significant differences between C1 and C2 was seen in their very different approaches to the issue of language of instruction. At C1 the teaching and learning of English as additional language in the Foundation Phase was described by the HOD as 'problematical', but the school had no programme to deal with the situation. At C2, on the other hand, English was introduced in Grades 1 and 2, and other measures for promoting proficiency in the language included scheduled reading in class and the dramatisation of stories and poems both in class and during cultural days organised by the school.

School gardens can be made to flourish under conditions of poverty and isolation

These were typical rural schools, situated in an area of high unemployment and poverty. The buildings at both schools were brick structures and relatively well maintained. However, water supplies to both were very erratic, and how this was dealt with was indicative of the more enterprising leadership shown by the principal of C2. At C1 water was supplied by the municipality by means of a water tanker, but this not infrequently stood empty for weeks before being replenished. At C2, on the other hand, the principal had persuaded a donor to pay for a borehole, which not only supplied the toilets but also fed a very extensive food garden. The same donor had provided the school with new toilets and a modern kitchen for preparing school meals, which stood in sharp contrast to the wood-fired iron pots used at C1. A final point of difference lay in the social programmes in place at C2, through which support was provided to families affected by HIV/AIDS. One set of recommendations in the report of the MCRE (section 2.1 above) called for district offices to coordinate the integration of social, educational and economic programmes around rural schools. What the principal of C2 demonstrates convincingly is that such activity needs neither policy from the DBE nor support from the district, but is best driven by school-level leadership with initiative and energy.

## 3.3 Indicators of instructional leadership

For the NEEDU school evaluations of 2012 and 2013 the framework shown in Table 2 was used as a starting point for deriving a set of indicators for describing instructional leadership practices and associated learning outcomes. The first step in this process was to expand the model to include cognate practices at the levels of the district, province and national DBE, as listed in Table 3.

**Table 3: Indicators of instructional leadership investigated at four levels of the school system**

| LEVEL | ELEMENT | INDICATOR | METHOD |
|---|---|---|---|
| NATIONAL | Curriculum | Distribution of CAPS documents<br>Training | Interviews at school, district, provincial and national levels |
| | Assessment | Design, distribution and use of ANA tests | Interviews at school, district, provincial and national levels. Document analysis |
| | Resources | Design, distribution and use of workbooks | Interviews at school, district, provincial and national levels. Document analysis |
| PROVINCIAL | Staffing | Staff vacancies | Observation, Document analysis, Interviews |
| | Curriculum | Curriculum planning | |
| | | Monitoring | |
| | | Assessment | |
| | | Procurement and distribution of books | |
| | | Professional development | |
| DISTRICT | Staffing | Staff vacancies | Observation, Document analysis, Interviews |
| | Curriculum | Curriculum planning | |
| | | Monitoring | |
| | | Assessment | |
| | | Procurement and distribution of books | |
| | | Professional development | |
| SCHOOL | School culture | History, demographics, location, infrastructure, resources | Observation, SMT interviews |
| | Language | LOLT, FAL, HL of learners and teachers | SMT, teacher interviews |
| | Curriculum | Delegation of functions | SMT, teacher interviews, Examination of teacher and school records , Observation |
| | | Time management | |
| | | Curriculum planning | |
| | | Monitoring | |
| | | Assessment | |
| | | Procurement and distribution of books | |
| | | Professional development | |
| | Reading | Reading fluency and comprehension | Classroom observation, Learner assessment |
| | Writing | Frequency | Examination of learner books |
| | | Quality | |
| | | DBE workbooks | |
| | District support | Frequency of contact<br>Activities | SMT, teacher interviews; school logbook |

The nested structure of the evaluation design shown in Table 3 allows policies and practices to be traced across levels of the system, a key element of NEEDU's systemic evaluation model.

## 3.4 Instrumentation and data collection

Sets of instruments were developed for collecting data on the indicators listed in Table 3, at each level of the system, except for the national DBE, where discussions with the managers of the programmes investigated were of a semi-structured nature.

At the provincial level separate instruments were designed for interviews with the HOD (or Superintendent General), the Chief Directors (or Senior General Managers) for Curriculum and District Management, as well as the Directors (or General Managers) for these two key functions. Depending on the division of labour in the provincial office, in certain provinces structured interviews were held with one or more of the managers responsible for Assessment, EMIS, Learning and Teaching Support Materials and Quality Assurance.

Data was also collected on results of the Annual National Assessment (ANA) tests, vacancies in the provincial office and documents relating to any provincial programmes for improving teaching and learning in the Intermediate Phase (IP).

Instruments for interviewing district level officials and examining documents in the district office were designed in parallel to those used at the provincial level, focusing on the curriculum and district management functions.

School-level instruments included structured interview schedules for the principal, deputy principal, HOD for the IP, and teachers of mathematics and the language of learning and teaching (LOLT) in Grades 4-6. The teacher interview schedules included protocols for examining teacher's work plans and assessment records, and the DBE workbooks and exercise books in LOLT and mathematics used by one learner in the class taught by the teachers interviewed. Extensive reading fluency and comprehension tests were conducted in one Grade 5 class in each school visited. Finally, an instrument was used to record observations of time management at the school and to examine school records on assessment and teacher and learner attendance.

Further elaboration of the procedures for collecting the various kinds of data is provided under the relevant headings in sections 5 and 6.

A team from the NEEDU head office spent one day in each of the provincial and district offices selected for evaluation. A two-person team then visited each school sampled in the district for two days.

## 3.5 Sample: Schools and districts visited in 2013

NEEDU's plan is to investigate all phases of schooling and all school districts over a four-year cycle, as shown in Table 4.

**Table 4: NEEDU sampling frame 2012-2015**

| Year | Semester | Location | School Phase | Province | Districts |
|---|---|---|---|---|---|
| **2012** | **Second** | Urban | Foundation (G1-3) | All | 15 |
| **2013** | **First** | Rural monograde | Intermediate (G4-6) | All | 17 |
| | **Second** | Rural multigrade | Intermediate (G4-6) | All | 17 |
| **2014** | **First** | Urban and rural | FET (G10-12) | All | 15 |
| | **Second** | Urban and rural | Senior (G7-9) | All | 13 |
| **2015** | **First** | Urban and rural | Grade R | All | 15 |
| | **Second** | Urban and rural | LSEN Schools | All | 13 |

In 2013, in each province a sample of rural monograde schools was visited in the first semester and a sample of rural multigrade schools in the second. The first step in selecting the respective school samples was to identify districts in each province containing significant numbers of rural and multigrade schools. Seventeen districts were selected for visiting rural schools in which monograde teaching occurred and 17 districts were selected for visiting rural schools in which multigrade teaching occurred.

Wherever possible, these districts had not been selected for evaluation in 2012. Eight schools were then selected at random from the set of mono- or multigrade schools within the district. The full list of schools and districts evaluated is given in Appendix 1. Ninety-nine monograde and 120 multigrade schools were visited during the course of 2013. The reason for the difference in numbers is a union 'disengagement' exercise in the second quarter, during which NEEDU evaluators were refused access to 27 schools in five districts.

The state of the buildings housing these schools is summarised in Table 5.

**Table 5: Infrastructure of schools visited**

| CLASS ARRANGEMENT | DESCRIPTION | PERCENTAGE OF SAMPLE | |
|---|---|---|---|
| | | Condition of Buildings | Condition of Toilets |
| MONOGRADE | Poor | 9 | 34 |
| | Adequate | 55 | 38 |
| | Good | 36 | 29 |
| MULTIGRADE | Poor | 7 | 42 |
| | Adequate | 45 | 22 |
| | Good | 48 | 36 |

Buildings were in a poor state in 9% of monograde and 7% of multigrade schools seen. However, in many of the schools in which buildings were considered adequate, the state of the toilets was unacceptable. This meant that toilets were of the pit variety or in poor state of repair and unsanitary. This was the case in 34% of monograde and 42% of multigrade schools. These figures illustrate the importance of ASIDI described in section 2.3 above.

The state of poverty prevalent in the communities served by the schools visited is indicated in Table 6, which shows that in 87% of both subsets of the sample all the learners were beneficiaries of the NSNP. In 93% of monograde and 94% of multigrade schools feeding was funded entirely by government. The school meals programme is further evidence of government's commitment to poverty alleviation.

**Table 6: School feeding**

| | Provision of meals | Percentage of sample | Who pays | Percentage of sample |
|---|---|---|---|---|
| MONOGRADE | None | 11 | Private | 4 |
| | Some learners | 2 | School fees | 3 |
| | All learners | 87 | DBE | 93 |
| MULTIGRADE | None | 12 | DBE & private | 3 |
| | Some learners | 1 | Private | 3 |
| | All learners | 87 | DBE | 94 |

Regarding library and computer facilities, Table 7 shows that very few schools had functioning libraries and computer laboratories that were regularly used as an integral part of the curriculum.

**Table 7: Availability of computer laboratory and library**

| CLASS ARRANGEMENT | DESCRIPTION | PERCENTAGE OF SAMPLE | |
|---|---|---|---|
| | | Computer Laboratory | Library |
| MONOGRADE | None | 61 | 76 |
| | Present, but not functioning | 15 | 10 |
| | Present, used regularly | 24 | 15 |
| MULTIGRADE | None | 84 | 82 |
| | Present, but not functioning | 4 | 4 |
| | Present, used regularly | 11 | 14 |

The figures shown in the preceding three tables indicate that the two sets of schools are similarly provided for with buildings and toilets. However, Table 8 indicates that they are very different in size.

**Table 8: Sizes of schools visited**

| | Number of learners | Percentage of sample |
|---|---|---|
| MONOGRADE | 1-500 | 41 |
| | 501-1000 | 37 |
| | 1001-1500 | 17 |
| | >1500 | 4 |
| MULTIGRADE | 1-50 | 31 |
| | 51-100 | 33 |
| | 101-150 | 20 |
| | 151-200 | 13 |
| | 201-250 | 3 |

Nearly two-thirds of multigrade schools cater for 100 pupils or fewer, and only 16% contain more than 150. Typically, these are very small institutions staffed by three or four teachers, including the principal, where most teachers work with learners at two or three distinct grade levels in the same class. Two-thirds of the multigrade schools visited were served by four teachers or fewer. Since principals in multigrade schools generally have a full teaching load, management has to be done outside school hours, although these duties are less onerous and more likely to be shared among staff than is the case in larger schools. In contrast, only 41% of monograde schools contain 500 learners or fewer, while one-fifth are large, catering for over 1000. While the largest multigrade school contained 243 learners and the smallest only seven, the smallest monograde school had 303 learners and the largest 1627.

These contrasting sets of conditions under which the two NEEDU subsamples work place very different demands on both teachers and school leaders, and for most aspects of instructional leadership below we contrast the respective descriptions of the monograde and multigrade schools visited.

## 3.6 Data capture and analysis

The instruments were completed by school evaluators in Microsoft Word. Data capture was done in Microsoft Excel. The descriptive statistics shown in the tables and graphs below were constructed from Excel. Qualitative data was derived from the 219 school reports and 34 composite reports (see section 3.7).

## 3.7 Reporting

Each school visited received a draft school report with recommendations to the school management and teachers based on the evaluation of the school. After engagement with the school, the report was finalised and sent to the school. A composite district report was then written, containing an overview of the findings at the eight schools, the district office and the provincial head office. These reports were first submitted to the district and province for comment before finalisation. The present report, the NEEDU National Report 2013, reflects the consolidated findings from the 34 composite district reports, together with findings from discussions with officials in the DBE and analysis of a range of government and other paper and electronic documents.

NEEDU's reporting procedure of engaging with the subject of each report through a draft report is not only ethical evaluation practice, but also acts as a catalyst to promote system change. Following the 2012 National Report, the DBE issued a tool to the provinces, listing the NEEDU recommendations in a table and requesting provinces to describe their response to each. Most provinces were visited too early in 2013 to gauge their responses to this instrument, although continuing engagement throughout the year with three provinces, the Free State Department of Education (FSDE) (Box 2), Eastern Cape Department of Education (ECDE) (Box 3) and Western Cape Department of Education (WCED) (Box 4) enabled a much deeper engagement with these three provinces. It is intended that this process be followed through more systematically with respect to the current report, which will be discussed with each province during the middle quarters of 2014.

## 3.8 Limitations

NEEDU's 2012 National Report, subtitled *The State of Literacy Teaching and Learning in the Foundation Phase,* was reviewed on commission from the Department of Public Monitoring and Evaluation (DPME), an organ of the President's Office. The NEEDU report scored 3.82 overall (Department of Performance Monitoring and Evaluation, 2013). Detailed scores on 10 separate components evaluated are given in Appendix 2.

The lowest score was influenced by the low levels

of engagement with the DBE prior to and during the evaluation, a situation explained as arising from the DBE's strict observance of NEEDU's independent status. Nevertheless, it is important to engage with all the subjects of any evaluation at a number of points in order to gather information and test findings against any alternative explanations that may be offered by participants. This weakness was addressed in the 2013 study through extensive engagement with the Ministry and DBE, particularly at the levels of branch, chief directorate and directorate, both on the evaluation questions and the emerging findings.

During the middle quarters of 2014, senior management in each province will be engaged in discussions on the NEEDU recommendations for the province.

The DPME report also noted that the structure of the initial sections in the NEEDU 2012 report (introduction, methods, sample, etc.) could have been more logical and comprehensive. The present report addresses this criticism through the extensive discussion in sections 3.1 - 3.5.

The most serious limitation to the work of NEEDU is the temporary status of the organisation. NEEDU is an organisation under construction. A particular approach has been adopted – a research-inclined perspective on school evaluation – and the present report on activities undertaken in 2013 must be seen as part of a proof of concept of this design. Nevertheless, the status of an organisation in waiting and all that entails in terms of short-term contract appointments and a low time horizon is not conducive to long-term planning or any sense of job security among personnel.

A second limitation arises directly from the first. The present report is largely descriptive, since the organisation lacks the capacity to undertake a variety of quantitative and qualitative analyses of the very rich data it has accumulated over two years. This shortcoming was highlighted by the DMPE report, where it was noted that using a more sophisticated software package would have strengthened and deepened the data analysis and improved the robustness of the findings.

The point is well taken: these services are in the process of being procured from the State Information Technology Agency, and it is intended that the next report will be based on a more wide-ranging analysis.

# 4 Accountability

South Africa has largely achieved the Millennium Development Goal of universal primary education, in terms of providing school places for 10 years for children of compulsory school-going age. This is a significant achievement, equalled by few countries on the continent. However, quality remains a serious problem. A useful illustration of how well South Africa is doing in providing access, but underperforming in terms of quality, is the comparison with Tanzania drawn by Spaull and Taylor (quoted in Department of Basic Education, 2013b). In South Africa only about 2% of 14 year-olds are not enrolled in school, while the figure for Tanzania is 15%. However, about 53% of this age group in Tanzania reach higher order reading skills, in contrast to only about 27% of South African Grade 6 children. Thus, while South Africa provides better access to schooling, Tanzania converts access into quality more efficiently.

There is much talk today of greater accountability as a prerequisite for sustained improvement in the country's poor school outcomes. The first question that must be asked of public servants, starting with ministers of state, concerns to whom or what they are accountable. The South African Constitution is very clear on this point: the Bill of Rights, as described in section 7, applies to all law, and binds the legislature, the executive, the judiciary and all organs of state (Constitution of the Republic of South Africa). Section 7 goes on to say that the state must respect, protect, promote and fulfil the rights in the Bill of Rights. Section 29 lists basic education as one such right.

The Constitution also specifies that the principles governing public administration include 'efficient, economic and effective use of resources', treatment that is 'impartial, fair, equitable and without bias' (Section 195), and 'diligent performance of obligations' (Section 237). In terms of section 100(1)(b) of the Constitution, national government may assume responsibility for the relevant obligation when a province cannot or does not fulfil an executive obligation, a situation which pertains at present in both Limpopo and the Eastern Cape.

The National Education Policy Act (NEPA) (National Education Policy Act, 1996) also has important things to say about accountability. The Act lists the obligations of the Minister with regard to policy on a wide range of activities, including 'planning, provision, financing, staffing, coordination, management, governance, monitoring, evaluation, and well-being of the education system' (Section 3(4)). Aside from the drastic measures outlined in section 100 of the Constitution, a number of legal mechanisms exist for national intervention where policy is not being implemented to the satisfaction of the Minister. NEPA is explicit on this point. Section 3(3) stipulates that, whenever the Minister wishes a particular national policy to prevail over the whole or a part of any provincial law on education, the Minister must inform the provincial political heads of education accordingly, and make a specific declaration in the policy instrument to that effect. In terms of section 8 the Minister must direct the DBE to monitor and evaluate the standards of education provision, delivery and performance. Where provision is found wanting, the Minister must inform the provincial political head of education concerned and require the submission within 90 days of a plan to remedy the situation. This plan is to be tabled in Parliament by the Minister within 21 days of receipt.

Accountability relations between provincial departments of education and schools are specified in the South African Schools Act (SASA), where section 16A provides that a school principal will submit an annual report on school performance to the provincial HOD. If such a school is deemed to be underperforming, the principal must submit a plan to improve performance to the provincial HOD and table the plan at a school governing body meeting. In terms of section 58 the HOD must identify underperforming schools, demand a plan, and take all reasonable steps to assist the schools concerned.

While the steps outlined in SASA have been used to good effect in high schools, they have been applied far less often, if at all, in the case of primary schools. This is perhaps to be expected, since underperforming high schools are easily identifiable through their National Senior Certificate (NSC) results, but no such metric existed for primary schools prior to the introduction of the ANA in 2011.

It would seem that the procedures specified in NEPA should be applied with respect to an underperforming province long before the situation deteriorates to the extent that takeover in terms of section 100 becomes necessary. Yet, as we shall show in section 5.2, most provinces have been paying little heed to the post provisioning norms established in 1998, and while the DBE has been monitoring developments in the provinces with increasing attention to detail (see 5.7 below), the next step, bringing to bear the consequences of transgression, have to date not been in much evidence.

Instructional leadership may be thought of as the ensemble of processes, operating at the different levels of schooling, and directed towards leading the system to improved quality.

In the following discussion we examine the state of instructional leadership processes in the 219 rural schools visited by NEEDU in 2013 and their district, provincial and national support structures.

## 5.1 Planning

### 5.1.1 National planning

The administration that took office in central government in 2009, following the fourth democratic election, started its programme by setting out 12 priority outcomes, formulated with a view to measurable performance and accountable delivery.[5] Outcome 1 is 'Improved quality of basic education', which is to be expressed through four outputs. Each output may be linked to one or more programmes of the DBE, as indicated in Table 9, which also lists the section in the present NEEDU report where these programmes are discussed.

**Table 9: Four outputs of Outcome 1 and associated DBE programmes**

| Output | DBE programme | Present NEEU Report - Section |
|---|---|---|
| 1. Improve the quality of teaching and learning | CAPS<br>Workbooks<br>Educator professional development | 5.9.3, 6.4, 8.3, 8.4, 8.5<br>5.6, 6.4.3, 8.3, 8.4<br>5.9, 8.7 |
| 2. Undertake regular assessment to track progress | National Senior Certificate (NSC)<br>Annual National Assessment (ANA) | Subject to evaluation by NEEDU in 2014<br>5.8, 8.5 |
| 3. Improve early childhood development | Enrolment rates of 5-year olds more than doubled, from 40% in 2002 to 84% in 2011. In 2012 94% of Grade 1 learners had experienced some form of Grade R | Subject to evaluation by NEEDU in 2015 |
| 4. Ensure a credible outcomes-focused planning and accountability system | Many monitoring reports within DBE, National Survey, Country Report, Macro-indicator Report, Education Realities, ANA Reports, Annual Reports, website: http://www.education.gov.za/ | 5.7, 5.8, 8.1 - 8.8 |

The current administration's overall programme for achieving Outcome 1 commenced with the declaration of *Schooling 2025*, described as a long-term plan for the sector (Department of Basic Education, 2011a). Within this broad framework, the first pillar of the national accountability system is the *Action Plan to 2014: Towards the Realisation of Schooling 2025*, which lays out 27 goals for schooling. Goals 1 to 13 deal with desirable outputs in relation to learning and enrolments, while Goals 14 to 27 list activities that must be performed to achieve the 13 output goals. This framework provides the matrix for provincial plans and reporting procedures, down to school level.

### 5.1.2 Provincial and district levels

There is a great deal of planning across the school system. Most provinces demand a number of plans from schools and districts, in some cases in response to national demands, but usually adding new demands. Thus, it is common for schools to be required to formulate School Improvement Plans (SIP), which are condensed at successively higher levels of the system into Circuit Improvement Plans, District Improvement Plans and Provincial Improvement Plans. Other types of plans include School Development Plans (SDP), Learner Academic Improvement Plans, and ANA Improvement Plans. In response to these demands, a senior official in one of the provincial offices stated best what NEEDU researchers heard from a number of interviewees, not only in this particular province but in others as well. She commented that, while there were good improvement strategies and implementation plans in place, the department did not give sufficient attention to the implementation of these plans, from the provincial head office through districts and circuits and down to schools. She explained:

*My view is that we have a system overload. Every time after the analysis [of results] you*

5. http://www.thepresidency-dpme.gov.za/keyfocusareas/outcomesSite/Pages/default.asp

*have to have an intervention programme, when there are already existing intervention programmes. When do you get time to implement the strategies that have been developed? We develop strategies all the time. Quite often, we recycle the same strategy under a different name. We need to put our energies on putting systems in place to implement these plans successfully.*

A number of provinces were busy with plans directed specifically at improving literacy and numeracy teaching and learning, a discussion we pick up in detail in section 5.9.1. In the following section we turn to an assessment of the extent to which the intentions and activities envisaged by provincial- and district-level plans were discernable in the schools visited.

### 5.1.3 School-level planning

In over three-quarters of schools visited in 2013, SIPs were available for examination. The general experience of NEEDU evaluators in this regard is well illustrated in a visit to one district, where SIPs were in evidence in seven of the eight schools visited. However, they varied greatly in their detail and professed purpose: one had clearly defined activities and time frames; one was described as "a flimsy, unsigned two-page document, with no reference to curriculum issues ... date-stamped 2012"; two did not reflect either the needs for improvement identified in the analysis of ANA results, or the issues and challenges raised during the interviews. Similarly, at yet another school, the SIP (along with the SDP and APIP), showed no evidence of any plan to improve curriculum delivery in either mathematics or English in the IP.

NEEDU findings in regard to SIPs were consistent with the conclusions of the Whole School Evaluation Annual Report for 2012/13, where 348 out of 387 evaluated schools were found to have developed their SIPs (Department of Basic Education, 2013f). They were also found to have developed turnaround strategies, with targets set for learner achievement. However, in some instances the SIPs were of poor quality and implementation of these SIPs was also poor.

## 5.2 Allocating and distributing resources

The NEEDU Report 2012 confined the discussion on human resource (HR) management to broadly defining the competences required for leadership posts, from school-level HOD and up. It also looked at the accountability obligations of principals and circuit managers (CM) with respect to time management in schools and other key aspects of instructional leadership. NEEDU's 2013 study kept a sharp focus on these elements, but widened the lens to place them in the larger context of HR planning, for which much of the information was obtained from DBE documents.

HR management is the single most important tool available to PDEs in giving effect to curriculum policy. It provides the tools for the optimal deployment of the costliest and most important resource, educators. Three aspects are pertinent in this regard: post provisioning, recruitment and promotion, and professional development.

School planning in provincial offices starts with the annual post provisioning exercise, by means of which the total basket of posts is fixed for the year ahead and posts are allocated to institutions. Teachers are the most important component of effective schooling, yet teachers cannot function without classrooms to shelter the process of teaching and learning from the elements, or books, without which reading and writing are not possible, to name just two of the most obvious non-personnel resources. Moreover, without the required technical and administrative support staff, both systems management and classroom teaching are handicapped. An optimal balance needs to be struck between staffing and other expenditure. The 1998 *National Norms and Standards for School Funding* (NNSSF) (Department of Education, 1998) regulations set a target 'of the order of 80:20' for personnel to non-personnel costs. The NNSSF also set a target ratio of 85:15 for the balance between educators and support staff, to be achieved by 2005. The principle of equity remains fundamental to current NNSSF policy, and the 1998 formulation is still relevant:

> *… the allocation of non-teaching staff to schools, including administrative and support staff, is extremely uneven. The provision of such personnel has been severely lacking in historically disadvantaged and small schools. Inequalities in the provision of such staff members is almost certainly associated with major inefficiencies in schools which serve poor communities. (p. 11)*

The NNSSF arose partly through a concern that, at that time, salaries made up 90% of provincial budgets, with an accompanying decline in spending on other educational resources, such as new school construction, provision of essential services, supply of books and associated learning materials, and teacher training. However, the imbalance between personnel and other expenditure has proven difficult to solve from a national vantage point. In 2012, when it was apparent that there was a great deal of inconsistency across provinces in their approaches to post provisioning, and in the face of a sharp upward trend in personnel costs, the DBE commissioned a study of the process.

The findings were released in 2013 in what will hereafter be referred to as the *Deloitte Report*

*(Deloitte, UNICEF, & Department of Basic Education, 2013)*, which revealed that a number of provinces had reverted to the situation described in the NNSSF legislation of 1998 (Table 10).

**Table 10: Personnel to non-personnel expenditure by province**

| PROVINCE | 2010/11 | 2011/12 | 2012/13 |
|---|---|---|---|
| **Eastern Cape (EC)** | 84:16 | 89:11 | 90:10 |
| **Free State (FS)** | 85:15 | 86:14 | 89:11 |
| **Gauteng (GP)** | 79:21 | 80:20 | 81:19 |
| **KwaZulu-Natal (KZN)** | 89:11 | 83:17 | 84:16 |
| **Limpopo (LP)** | 86:14 | 91:09 | 93:07 |
| **Mpumalanga (MP)** | 85:15 | 87:13 | 87:13 |
| **Northern Cape (NC)** | 82:18 | 83:17 | 87:13 |
| **North West (NW)** | 84:16 | 86:14 | 86:14 |
| **Western Cape (WC)** | 83:17 | 83:17 | 83:17 |
| **Total** | **83:17** | **85:15** | **86:14** |

**Note:** Conditional grants are excluded from calculations
**Source:** Response by the MBE to a parliamentary question with respect to personnel versus non-personnel expenditure *(quoted in Deloitte et al., 2013).*

It is not known to what extent PDEs will agree with the figures shown in Table 10. Perhaps the largest possible source of error in these ratios is that the respective provincial figures may not be calculated in the same way and thus may not be comparable. The DBE is best placed to address this issue and if post provisioning is to be put on a more efficient and equitable footing, a consistent set of data needs to be generated, with the concurrence of and assistance from the provinces. While the national department has recruited increased capacity in data management in recent years, it could easily double this if an adequate job is to be done. It also follows that capacity for information management needs to be replicated in the provinces in order to ensure an integrated approach to the collection and use of data. We return to this subject in section 5.2.5.

If we assume that the figures shown in Table 10 are correct, then it is clear why the ECDE and LDE are under administration by Treasury and the MBE in terms of section 100 of the Constitution. These provinces have lost control of the post provisioning process, pushing the personnel to non-personnel ratio past 90%. The NEEDU National Report 2012 attributed the crisis in the Eastern Cape, which arose in 2011, to the refusal of teachers to move in response to learner migration, the hiring of too many teachers and the consequent collapse of the budget. In late 2011 administration of the ECDE was taken over by the MBE in terms of section 100 of the Constitution. Chisholm (2013) has described how the so-called 'textbook crisis' in Limpopo in 2012 was also ultimately caused by the appointment of teachers and other staff in excess of post provisioning guidelines. The situation was aggravated by corruption in the allocation and pricing of tenders for services such as textbook delivery. While the Eastern Cape and Limpopo represent extreme examples of systemic malfunction, a number of other provinces are at risk. As a whole, Table 10 does not present a picture of a healthy balance between personnel and other costs, with the Free State, Mpumalanga, Northern Cape and North West closing in on 90%, and the national average creeping to over 86%.

Establishing the basket of posts for any province is a complex procedure, which is influenced by the degree of urbanisation of the province and historical decisions with respect to school management. For example, the Eastern Cape is a predominantly rural province in which large numbers of isolated small schools each serves a few learners. These arrangements increase the number of schools, thus reducing economies of scale. Consequently, the province has the lowest learner-to-school ratio (LSR = 338) and educator-to-school ratio (ESR = 11.4) (Table 11). In contrast, Gauteng, with its high population density and small land area, has by far the highest LSR (924) and ESR (28.9).

**Table 11: Numbers of learners, schools and teachers by province, 2013**

| PROVINCE | LEARNERS | SCHOOLS | TEACHERS | LEARNER: EDUCATOR (LER)* | LEARNER: SCHOOL (LSR) | EDUCATOR: SCHOOL (ESR) |
|---|---|---|---|---|---|---|
| Eastern Cape (EC) | 1 938 078 | 5 733 | 66 007 | 31.7 | 338 | 11.4 |
| Free State (FS) | 664 508 | 1 396 | 24 475 | 29.1 | 490 | 17.9 |
| Gauteng (GP) | 2 129 526 | 2 649 | 74 823 | 35.6 | 924 | 28.9 |
| KwaZulu-Natal (KZN) | 2 866 570 | 6 156 | 96 057 | 32.2 | 471 | 15.4 |
| Limpopo (LP) | 1 714 832 | 4 067 | 57 108 | 30.8 | 424 | 13.9 |
| Mpumalanga (MP) | 1 052 807 | 1 885 | 34 936 | 31.7 | 580 | 18.9 |
| Northern Cape (NC) | 282 631 | 573 | 8 972 | 34.3 | 505 | 15.8 |
| North West (NW) | 788 261 | 1 606 | 26 194 | 32.6 | 498 | 16.2 |
| Western Cape (WC) | 1 052 435 | 1 655 | 36 451 | 37.3 | 690 | 22.2 |
| **TOTAL** | **12 489 648** | **25 720** | **425 023** | **32.6** | **496** | **16.2** |

* Excluding SGB teachers | **Source:** Compiled from (Department of Basic Education, 2013d)

It follows that high personnel costs will be associated with low learner-to-educator ratios (LERs). Conversely, controlling teacher numbers by means of a relatively high LER will curtail personnel costs. The issue is further complicated by older teachers being more expensive than younger ones and the fact that the country's teaching corps is relatively stable in number, putting further pressure on the salary bill, as discussed further in section 5.2.3.

A number of other factors plays a part in rendering most provinces unable to get their personnel expenditure close to 80%: the urbanising nature of South African society, pressure from organised interest groups, rising salary costs, policy ambiguity and inadequate information management. We examine each of these in turn.

### 5.2.1 Urbanisation

A primary factor that bedevils post provisioning is the high rate of population migration, both within and between provinces. Rural areas are becoming depopulated, with a consequent declining demand for schools and teachers, while towns and cities are gaining learners, requiring more schools and teachers. Migration patterns are not simple, being subject to seasonal variations and other reflux movements back to the rural areas. Nevertheless, the net movement is away from rural areas towards towns, cities and metropoles. Under these circumstances the logical response is to move teachers from schools that are losing learners to those in which there is a net gain or, if teachers are unable or unwilling to move, to retrench those in the former areas and hire new teachers in the latter ones. Indeed, *Collective Agreement 2 of 2003* of the Education Labour Relations Council sets out the procedures for doing just that (Education Labour Relations Council, 2003).

However, in the face of strong teacher resistance, PDEs find it very difficult to implement this agreement. Instead, temporary posts are created in the school to which the posts should move, new teachers are hired against the temporary posts and the teachers rendered 'in excess' are 'double parked'. According to Gustafsson (2012), there were 48 124 temporary teachers in the system in 2011. This is a significant phenomenon in all provinces, with temporary teachers constituting 11% of the total and ranging from a low of 8% in North West to a high of 17% in KwaZulu-Natal. Gustafsson estimates that, at the very least, half of these temporary teachers are 'double parked'. The effect of these practices is to lower LER ratios and push up personnel costs.

At the same time, provinces attempt to mitigate the effects of urbanisation by merging schools that are undersubscribed or, in extreme cases, closing schools. Thus, in the six provinces in which there has been a net decline in the number of schools, at least 568 schools were closed between 2009 and 2013 (Table 12). Although this practice is necessary to maintain an efficient LER and hence an affordable post establishment, it has run into a problem in the Western Cape, where a decision by the WCED to close 17 schools at the end of 2012 was challenged in the Cape High Court (News 24, 2013) by parents. The court ruled that the reasons given by Member of the Executive Council (MEC) Donald Grant for the closures were brief and that the public consultation process that followed was inadequate, 'an artificial formality'. It set aside the MEC's decision to close the schools, finding that the reasons presented were largely inadequate and irrational. According to the judgement: 'The applicants have demonstrated in the papers filed that the schools the MEC decided to close have remarkable similarities to those he decided to keep open.'

The judgement of the Cape High Court poses a challenge to all provinces, where learner migration

necessitates the continuous rationalisation of schools. There is no question that provinces need to provide rational reasons for school closures and undertake a serious process of consultation, but if no attention is paid to closing undersubscribed schools and moving teachers to keep pace with the movement of learners, the system would soon collapse under the weight of its own inefficiency, as has happened in the cases of Limpopo and the Eastern Cape. The DBE has issued a set of procedures for this process, but most provinces have difficulty carrying them out. This factor poses a significant risk in all but three of the provinces. Table 12 shows that six provinces have a net gain of learners below the population growth rate (estimated at a national average of 2%), with the Eastern Cape showing a decline of 6.7% over four years. Only Gauteng, the Western Cape and Northern Cape show significant net gains, although in the Northern Cape the growth is occurring off a very low base.

**Table 12:Changes in numbers of learners, schools and teachers, 2009-2013 (percentage)**

| PROVINCE | LEARNERS | SCHOOLS | TEACHERS |
|---|---|---|---|
| **Eastern Cape (EC)** | -6,66 | -1,31 | -5,19 |
| **Free State (FS)** | 1,95 | -12,48 | 3,09 |
| **Gauteng (GP)** | 11,85 | 10,84 | 12,77 |
| **KwaZulu-Natal (KZN)** | 1,39 | 1,07 | 7,47 |
| **Limpopo (LP)** | 0,44 | -0,93 | -2,48 |
| **Mpumalanga (MP)** | 1,66 | -2,53 | -0,81 |
| **Northern Cape (NC)** | 5,57 | -7,13 | -1,57 |
| **North West (NW)** | 1,41 | -9,16 | -1,88 |
| **Western Cape (WC)** | 7,32 | 3,63 | 6,02 |
| **TOTAL** | 2,14 | -0,72 | 2,89 |

Note: Each annual cohort of learners is not strictly comparable to those on either side, because of natural fluctuations in birth rates. An average annual birth rate of around 2%, significantly higher in some areas and lower in others, further complicates matters. However, it is assumed that successive cohorts are sufficiently comparable to reveal broad migratory trends.

**Source:** Department of Basic Education, 2011b; 2013d.

While Table 10 shows that KwaZulu-Natal has reduced its proportion of personnel spending significantly in the last three years, it seems to be on the way up again, and the third column of Table 12 shows why: the number of teachers has grown by 7.5% and consequently the LER remains low at 32:2 (Table 11). One of the ways in which the two large and expanding provinces (Gauteng and Western Cape) are managing their rapid growth, while tracking close to the 80:20 ratio, is by keeping the overall LER relatively high. The HOD of the Western Cape explained that the WCED aimed at a ratio of no more than 35:1 in the Foundation Phase (FP), as these are the most important years where closer attention is required. In the rest of the system the LER is above 40:1, except for specialist subjects in the Further Education and Training (FET) band (Box 4).

The Free State seems to be having greater success than most in consolidating small schools and managing the migration process, building hostels to accommodate children living in isolated villages and providing transport to others (see Box 2).

## box 2 Consistent systems management in FSDE

The combined Museum of Afrikaans and Sesotho Literature, one of the most architecturally charming of all the splendid sandstone buildings in Bloemfontein's President Brand Street, illustrates how institutional continuity has been maintained in the province, across periods of revolutionary political change over the last 200 years. In the grounds of the museum a forest of giant trees planted by former leaders, from President Brand in 1879 and HE Lord Milner in 1906, gives testament to the past. The imprint of democracy is strong in the cultural domain, where Sotho now occupies an equal footing in an institution that served as official residence of the last three presidents of the Republic of the Orange Free State, dating back to 1885, and was set the task in 1973 of archiving and researching Afrikaans literature.

When asked to explain why the FSDE is performing relatively well, the deputy director-general (DDG) for districts explained that the success is founded on administrative continuity:

*… the Free State Department of Education is one of the few that has had good organisation in moving from old structures to the new. Under apartheid, some of the departments did not exist. They started*

*from scratch, to build systems. We inherited good systems. We did have QwaQwa, Bop, but we had something to build on from the old FSDE and DET.*

According to the DDG, political leadership is important in driving a strong curriculum programme:

*Also, there is a lot of stability – including political heads – unlike in other places. If you don't have political support you are going to struggle. Our MEC loves education. The curriculum is at the centre of everything, and that percolates through the system… If our message doesn't percolate to the schools we are not aligned in the same direction.*

The FSDE has three flagship projects: hostels, transport and nutrition. To keep up with learner migration patterns, and to achieve economies of scale, the province is closing rural farm schools 'in big numbers', according to the DDG. A primary motivator for rationalising schools is to 'get out of the multigrade situation'. To assist rural learners to attend larger schools, which may be far from home, high school pupils are offered places in hostels, while learners at all levels are provided with bus transport to the nearest school. The management of scholar transport and school nutrition has been devolved to district level, and funds are transferred to districts for this purpose. This places important responsibilities on the shoulders of district directors (DDs), who are best placed to make these decisions, situated as they are in proximity to schools.

While the province may be viewed as one of the best functioning administrations in the system, there is room for improvement in systemic efficiency. At 29:1, the LER is the lowest in the country. It is costly to maintain a ratio so far below the national guideline of 35:1 and limits the purchase of necessary non-personnel resources. If the province moved its personnel to non-personnel ratio, currently at 89:11, closer to the recommended 80:20, it would have considerably more funds available for key curriculum interventions, such as staff development and library supplies. In addition, the excellent innovations in place to rationalise small schools and provide boarding for rural learners could be expanded.

Senior officials are acutely aware of the need to reduce teacher numbers and plan to increase the LER ratio from 29 to 30 in the next year. According to the DDG, the province has been succeeding in reducing the number of teachers 'drastically'. Teacher organisations have not been happy about this but, the DDG continued, 'it's a question of management' and sticking to the terms of Collective Agreement 2 of 2003:

*We match teachers to vacancies. You can't have a maths teacher in excess. Appointments are based on requirements of schools, not just needs of educators. It was misused in the past. There is no organised resistance from the unions. They will come in once you don't manage it correctly: it's an ELRC resolution.*

### 5.2.2 Pressure from organised interest groups

The post provisioning process commences in the political terrain, where policy specifies that the MEC of a PDE must determine the department's educator post establishment, and inform schools of the results for each year by 30 September of the previous year. Key to this process is the need to consult with unions and recognised SGB organisations. These meetings are scheduled and coordinated by the provincial Labour Relations Directorate and are generally concluded during two consultation processes with the MEC and the HOD.

The problems inherent in allowing political horse trading to dominate the process are apparent in the inability of most provinces to formulate an affordable post establishment, i.e. one that gets close to the 80:20 and 85:15 ratios and fits within the available budget.

The *Deloitte Report* concludes that where provinces start the process at the wrong end – aiming to keep the total number of teachers constant or rising – it is primarily due to pressure by unions. This is a problem that has severely disrupted schooling in the Eastern Cape for three years (Box 3).

### box 3 Post provisioning in the ECDE

In 2013 the South African Democratic Teachers' Union (SADTU) declared a dispute with the ECDE, for the third year running, resolutely opposing the redeployment of teachers from areas of net pupil loss to schools experiencing high inward migration (Sunday Independent, 24 November 2013). On the opposite side of this skewed distribution, the Centre for Child Law, on behalf of seven schools in Grahamstown and Port Elizabeth, made application against the MBE, her director-general (DG), the MEC for Basic Education in the province and his HOD, requesting that educators and support staff appointed against the post establishment issued by

the ECDE be paid, and that unfilled substantive posts be filled and paid for. One of the applicant schools catered for learners with special needs and was having to make do without therapists, nursing staff and other specialists. Another, catering for children from very poor homes, had to cut its school feeding programme.

In July 2012 the court sided with the applicants, ordering the respondents to pay teachers occupying posts established by the province, and to employ teachers appointed by school governing bodies in vacant posts[6] and pay them. Further litigation was necessary to achieve full compliance by the ECDE, and even then this was only done in respect of the schools making the application and not generalised to all schools in the same predicament. It was not surprising, therefore, that a second application was made 18 months later by the Legal Resources Centre in Grahamstown on behalf of 33 schools against the same applicants, suing for R25 m paid by school governing bodies in salaries to teachers allocated to the schools, but either not appointed or not paid by the ECDE[7]. The matter came before the Eastern Cape High Court, Grahamstown on 21 March 2014, when a class action suit against the ECDE was certified. The next court hearing is set for 31 July, providing time for additional schools to join the suit.

On 31 January 2014 Collective Agreement 1 of 2014 (ELRC Eastern Cape, 2014) was signed by the ECDE and teacher unions in the Eastern Cape Chamber of the ELRC, making provision for the permanent appointment of temporary teachers in vacant posts and the transfer of serving educators in terms of operational requirements. Implementation of Agreement 1 will not be easy, given that the schools experiencing a growth in numbers are constrained by the agreement to give preference to those rendered 'in addition' at schools losing learners. In particular, the identification of teachers at over-staffed schools to be moved is likely to be a highly fraught process. According to the HOD[8] there were 9 144 teachers in addition at the start of 2014, and if all vacant posts were to be filled by these teachers, there would still be 3 905 in excess. The HOD did not specify the LER on which this calculation was based but, whatever the LER, it is safe to predict that retrenching the teachers who remain in excess at the end of the exercise will be difficult. One may ask to what extent the department now has the capacity or political strength required to execute the agreement. Despite these reservations, the collective agreement reflects significant progress on a matter that has severely constrained schooling in the province since 2011.

The experience of the Grahamstown district is indicative of the complexity of the 'excess teacher' problem. The DD said that much of his time, and that of senior staff, is taken up by negotiations with unions and other interested parties on this issue. The process is very time-consuming and distracts district staff from the core business of teaching and learning. Furthermore, the DD described how the process is 'fundamentally flawed', in that most placements are not informed by curricular considerations, i.e. by the needs of the school as determined by the phase and subject mix offered. He said that the current process prioritises finding places for existing teachers, at the expense of finding the most appropriate candidate for the job. This method of placing teachers must be inferior to a process that selects the right candidate for the job, in terms of subject knowledge and proven pedagogical expertise. The *Deloitte Report* proposes an incentives approach to the 'excess teacher' problem, where teacher movement is voluntary, and where receiving schools and migrating teachers are paid to find each other. However, it is doubtful that this process will lead to the kind of curriculum fit envisaged by the Grahamstown DD, given the aversion of teachers to moving.

The larger question – how to avoid disasters such as these – is one that sits squarely on the shoulders of the MBE. The Minister's monitoring task in this regard is made doubly difficult by the fact that s/he is dependent on the timeous supply of accurate data at school level, and this in turn depends on provinces appointing and managing competent data clerks and supplying working hardware to each school. Yet these are the very resources that are first discarded when the personnel/non-personnel and educator/non-educator ratios creep outside the recommended norms. When this delicate balance is upset and information dries up, the process becomes opaque and the loss of control by the province can be catastrophic. Setting up and maintaining effective systems for regulating these processes must constitute an urgent priority for the Ministry.

It is not only unions that lobby in favour of the special interests of their members. In the two provinces where loss of control of the process has led to a collapse of the budget, the situation developed in a climate of political contestation and corruption, to which the current spate of corruption cases in Limpopo bears testimony (Chisholm, 2013). These pressures are also brought to bear during appointment and promotion processes, as we shall see below (section5.3).

The post provisioning process cannot continue to be skewed to favour powerfully organised interest groups. Inevitably these pressures are most prevalent in the poorest provinces, where the results exacerbate existing educational disadvantage. One option is for the MBE to promulgate firm

6. Judgement in the matter between The Centre for Child Law and seven others versus the Minister of Basic Education and three others, Eastern Cape High Court Grahamstown. Case No. 1749/2012, 26 July 2012, p 2-3.
7. Founding Affidavit in the matter between Linkside and 32 other schools, and the Minister of Basic Education and 3 other respondents. Grahamstown: Legal Resources Centre, 21 November 2013.
8. Respondent's Answering Affidavit in the matter between Linkside and 32 other schools. Case 3844/2013. Eastern Cape High Court, Grahamstown, 6 February 2014.

policy regarding the 80:20 and 85:15 ratios, and hold provincial HODs accountable for achieving these targets. However, no department, however efficient, can alter the shape of its post establishment overnight. Finding the optimal post establishment for any one year is therefore part of a larger cycle, which needs to be planned over five-year or longer cycles.

The *Deloitte Report* recommends that provinces adopt a phased approach to moving towards the 80:20 split. Just as important is for the MBE to monitor trends in spending and intervene before matters reach the kind of crisis proportions they had been allowed to degenerate into in the Eastern Cape and Limpopo.

### 5.2.3 Rising wages

A third factor complicating the post provisioning process is rising wage costs. Table 13 shows that over the five-year period from 2007 to 2012, average annual increases in the personnel expenditure of provinces ranged from 11% to 16% (Gustafsson, 2013).

**Table 13: Average annual percentage increase in overall personnel spending by province 2007-2012**

| EC | FS | GP | KZN | LP | MP | NC | NW | WC |
|---|---|---|---|---|---|---|---|---|
| 13.6 | 12.2 | 16.0 | 15.4 | 11.3 | 13.6 | 11.5 | 11.2 | 12.8 |

**Source:** Gustafsson, 2013, p. 15

Table 14 disaggregates the increases in personnel costs, showing the major effect of the Occupation-specific Dispensation (OSD) negotiated in 2007. The overall effect of these increases is that salaries increased by twice the rate of rise in the cost of living (CoL) over this period.

**Table 14: Components of educator salary increases 2007-2012, against CoL increases.**

| Month and year | Nature of increase | Percentage increase | CoL Stats SA |
|---|---|---|---|
| **Jan 2008** | 'OSD I' adjustments | 5.4 | |
| **Jul 2008** | Cost of living increase | 10.5 | 13.4 |
| **Jul 2009** | Cost of living increase | 11.5 | 5.2 |
| **Jul 2009** | 'OSD II' adjustments | 7.8 | |
| **Jul 2010** | Cost of living increase | 7.5 | 3.7 |
| **Jul 2010** | Progression with turnover | 0.3 | |
| **May 2011** | Cost of living increase | 6.8 | 3.8 |
| **Jul 2011** | Progression with turnover | 0.3 | |
| **May 2012** | Cost of living increase | 7.0 | 5.7 |
| **May 2012** | Notch progression | 0.3 | |
| **Overall for educator basic salary** | | **73.5** | **35.8** |

**Source:** Gustafsson, 2013, p. 15

Furthermore, despite the existence of national policies on educator conditions of service, increases in the unit cost of educators varied widely over the period surveyed by Gustafsson, accounting for between 12.5% (Eastern Cape) and 6.8% (Limpopo) of the overall personnel increase. It seems that provinces have found a way of rewarding their teachers with increases over and above the very generous increments awarded at national level. Clearly, there is an urgent need to strengthen the regulation of personnel spending across the PDEs. What makes this particularly difficult for the DBE and provinces is that wages are set at the level of the public service as a whole. Above-inflation increases over a number of years are placing cumulative stress on PDE budgets and a number of provinces were experiencing budget distress at the time of writing.

### 5.2.4 Policy ambiguity

The findings of the *Deloitte Report* reveal that there is little coherence in formulating the annual post establishment, with provinces variously claiming to follow one of no fewer than four distinct routes through the process, each supported by one or other national policy document. In truth, it appears that the four possible paths do not differ significantly from one another, and the larger problem is that most provinces do not follow any policy at all, preferring instead to start with the assumption that the numbers of teachers should not be decreased, rather than basing the post establishment, in the first instance, on the available budget.

According to the *Deloitte Report,* only Gauteng and the Western Cape apply the correct procedure in

formulating the provincial post establishment, a four-step process: determine the personnel versus non-personnel budget split, determine the educator versus support staff budget split, determine the average cost of an educator, and divide the educator budget by the average cost of an educator.

In other words, an affordable post establishment process starts with resources and enrolment and calculates the number of teachers that is affordable. The *Deloitte Report* concludes that seven provinces, to a greater or lesser degree, end up with an unaffordable post establishment, because they start with the number of teachers. The first recommendation contained in the *Deloitte Report* is that the MBE must unambiguously declare which is the correct policy that provinces should follow, and amend the existing software package for applying it accordingly.

### 5.2.5 Knowledge management

Timeous and accurate information is key to a post provisioning process that secures the optimal balance between personnel and non-personnel costs and between educators and support staff. Data is the intelligence that directs planning, measures resource levels, tracks progress, and provides correctional feedback during the far-sighted cycles essential to the achievement of an affordable post establishment.

Knowledge management is the glue that holds the components of this complex set of procedures together. In recognition of the importance of good data in the efficient provision of services, one of the objectives of NEPA is to provide for the determination of national education policy by the Minister with respect to the monitoring and evaluation of education (Section 2). Section 4(a) of the Act is particularly pertinent in this regard, making provision for the Minister to determine national policy for EMIS.

The Ministry has been aware of the need for reliable data to guide planning and monitoring since at least the 1998 NNSSF legislation (Department of Education, 1998), which called for the development of necessary data systems and the more intensive use of data, as well as the need for provinces to demonstrate progress in this regard. However, 15 years later these hopes have not been fulfilled. As the *Deloitte Report* indicates, the problem continues, with some provinces using data that is two or three years old for the post provisioning process. As a result, schools frequently lodge appeals against their post allocation, often successfully because the establishments are based on poor quality data.

The *Deloitte Report* recommends that DBE develops a different 'end-to-end' post provisioning solution, built around an online system aligned to a clear gazetted policy. Furthermore, a full training programme needs to be developed to ensure that the system is run by competent staff, from school level, through districts and provinces, to the DBE.

The system must keep track of historical developments in order to show trends over time and provide information for financial modelling, issuing of institutional post establishments, the management of learner migration and school curriculum needs. Finally, provinces should be able to make relevant reports available online to managers at head office and district level, and schools should even be able to access their establishments online with usernames and passwords.

It goes without saying that the successful construction of an affordable post establishment every year is heavily dependent on accurate and up-to-date information across a host of variables, including the distribution of educators and support staff across the province, the salary profiles of all personnel and, most important, learner movement.

The data then needs to undergo a modelling exercise before it is of use in making decisions about post allocations. The DBE is in the process of setting up a web-enabled South African School Administration and Management System (SA-SAMS) network. Box 4 illustrates how an integrated information management system can be used to track real-time data across a host of indicators.

**box 4** **Information management and business processes in WCED**

With the assistance of the Centre for E-innovation based in the Office of the Premier, the WCED has built the Central Education Management Information System (CEMIS) for managing the data needed for a variety of purposes, from allocating staff to ordering books and tracking their delivery; from monitoring test scores to tracing teacher and learner movement; from following expenditure to generating reports. Professional development needs are also facilitated by CEMIS: all programmes offered by the Cape Teaching and Leadership Institute will soon have an e-component. As one senior manager observed: 'CEMIS is close to being a fully integrated business processing system'.

All schools in the province are connected and checked monthly by CMs. On the hardware side, each school is supplied with three up-to-date computers, and staffed by an administrator in possession of an 'international drivers licence', which enables her to work with a variety of software packages, including data inputting, basic manipulations and report production. Schools are subsidised to find their own internet service provider.

CEMIS is designed to meet the demands of the post provisioning process. Information is updated in real time, as changes occur, and managers at various levels can view the appropriate aggregate data daily. The post establishment for each year is based on current information and released in August of the preceding year. However, following the effects of the post establishment on expenditure as the year progresses is just as important, given the margins of error involved in any post provisioning model. According to the HOD of the WCED, careful tracking of expenditure is key to avoiding budget overruns. This, in turn, has been a prerequisite for the provision of adequate supplies of books and teacher training programmes, often among the first victims in any cash squeeze.

In addition to a large annual influx of learners into the province, there is also considerable movement between Western Cape schools, complicating the post provisioning process. To smooth this process and stabilise staffing levels in schools, the WCED has adopted a rule whereby, if a school sheds fewer than 40 learners, it does not lose a post, but must be prepared to accept learners looking for schools to make up the LER balance. As a rule of thumb, the province reckons three teacher posts to be equivalent to R1 m, and uses this currency to make careful choices between employing more educators or support staff, purchasing additional equipment and teaching resources, and providing training. Teachers 'in excess' are considered to be a wasted opportunity, absorbing precious funds that should be used to improve school quality.

Another innovation is that, while the current national formula allocates posts in G10-12 according to subjects, the WCED has reached agreement with the unions that subject ratios be increased by five learners, a step which has resulted in the release of 400 posts from high schools. These have been allocated to primary schools in order to keep the LER in the FP down to 35:1. The WCED justifies this step in the interests of providing more intense individual attention to learners in the first three years. It is also to the credit of the province that, according to the *Deloitte Report,* the Western Cape is the only province that is applying the redress policy correctly in terms of the 2002 NNSSF regulations (Department of Education, 2002). A key factor in the success of the WCED in managing its educator numbers, in the face of a rapidly growing learner population, is the high LER. In fact, at 37.3, this is the highest LER by some margin (Table 11).

## 5.3 Recruitment, promotion and employment continuity

After post provisioning, the second HR management tool provincial departments have at their disposal to influence the extent and quality of schooling is the approach they adopt to staff recruitment and promotion. Throughout the school system, capacity constraints at all levels inhibit curriculum delivery. In many schools teachers with poor subject knowledge receive little help from school leaders, whose own knowledge resources are little stronger. HODs and principals, in turn, are promoted to positions in circuits, districts and provinces without necessarily exhibiting superior subject knowledge, pedagogical skills or management capacity. These features were described in some detail in the NEEDU National Report 2012 (NEEDU, 2013) and again in 2013 evaluators heard complaints about this issue in the majority of districts visited. A very large part of the problem is that there is pressure to appoint officials to promotion posts using considerations other than merit. For example, one very senior official in the LDE told NEEDU evaluators that it was not uncommon to receive 'mandates' from on high, according to which:

> *… you are told to appoint so-and-so regardless of the person's skills and experience, and if you challenge this you become a black sheep. Once you have mandates you compromise on quality. [We are] sitting with many senior managers who don't know whether they're coming or going.*

A second example from an interview in the KwaZulu-Natal provincial office illustrates the widespread application of inappropriate procedures in the appointment of key personnel:

> *We are finding that there are some subject advisors who are expected to support and advise teachers when they themselves have no qualifications in those subjects… Some subject advisors have only matric as their highest qualification—they don't have a single [university] course beyond matric, let alone a qualification. This mess in the system came about when about 400 vacant posts were advertised in the famous circular HRM 76 of 2009. The process that was followed to appoint subject advisors following the advertisement was manoeuvred and tampered with. That is why we had wrong appointments to the extent that a subject advisor, because he is so uncomfortable with the content, asks teachers, who are more qualified than him, to facilitate a workshop on his behalf.*

A second important point illustrated by this quotation is that, once made, inappropriate appointments

retard development for many years, even decades. Turning a large organisation such as a PDE into an effective mechanism for teaching and learning requires intelligent leadership, a clear vision and the application of coherent processes for HR deployment over a long time.

The two quotations above illustrate the kinds of inappropriate HR practices NEEDU evaluators heard about across the length and breadth of the country in more than half of the provincial and district offices visited. Yet examples of exemplary practices were also found, often in the most unlikely places. The following example, quoted by a senior curriculum official in the ECDE provincial office, shows the kind of resistance that should be mobilised to meet the lobbying efforts of organised interest groups wanting their candidates appointed to promotion posts:

> *There will always be pressures from SADTU to deploy their members. However, if you do not open yourself to those things: they will make wide demands, but the custodians of the process must not crack; they must work strictly according to procedure. [We] just filled 156 [subject advisor] posts: we chaired the district-level appointment committees ourselves. We did receive deputations and were presented with lists, that had been caucused with the most senior people, but we all decided to lean on each other and ignore the pressure.*

While the last example illustrates an isolated incident in a province wracked with conflict, good HR management practices are exhibited across the system in the Free State, as described in Box 2 above. Perhaps the most interesting example of excellent leadership encountered by NEEDU in 2013 was seen in District Z (Box 5). This is a case study of a district undergoing a striking change in fortune over a short space of time, under the powerful influence of a very dynamic leader, the redoubtable Mr X.

### box 5 Dynamic leadership resolves con1ict in District Z

District Z, serving mostly rural schools in a former homeland, had been chronically underperforming on the NSC and by 2009 the average pass rate stood at 28%. Taylor et al. (2013) visited two primary schools in the district around this time, as part of the study described in section 3.2 above. In both cases, school leaders and teachers agreed that disruptive union activity in the area was linked to a dispute between the unions and district office concerning the filling of top posts in the district and schools. Teachers had been ordered by the union to 'disengage' from district activities and not to allow officials to visit schools.

NEEDU visited the district in 2013, and found a new DD in her second month in the job. She explained that the area encompassing the district had a long history of political contestation. Schools were not immune to this unstable climate, as the DD explained:

> *… the environment is polluted, so the focus is on other issues than curriculum delivery. People here are radical and they feel the best way to express themselves is through the streets. In schools this takes the form of communities interfering with governance issues. SGBs take a stance in terms of appointments; and there is a force behind these SGB stances… appointments are often followed by instability. If the newly appointed principal is not from the area, there will be dissatisfaction, irrespective of how scrupulously the process was followed.*

The DD said that she spent an inordinate amount of her time dealing with conflict management in schools. Nevertheless, the fact that she had been appointed from another province indicates that the province is determined to move beyond the parochialism that dominated appointments in the past. It seems that the critical moment in the turnaround of the district, from the high levels of conflict seen in 2010 to what appeared to be a stabilising climate in 2013, had occurred through the inspirational leadership of Mr X, the highly regarded director of the neighbouring district. In May 2010, the province suspended the director of District Z and approached Mr X to spend six months getting the district get back on its feet, without relinquishing responsibility for his own district. Mr X, interviewed by NEEDU in September 2013, takes up the story, in response to questions about how he had gone about this very challenging task.

> *SADTU had declared a non-engagement with the district. Union officials were not working with district officials. Circuit officials were not taking decisions, as they lacked confidence and were scared of the union. The first day [I arrived] the SA Principals Association phoned me for a meeting and I met all principals in the district. They were frustrated by the unions who did not respect government policy. They asked me three questions. First: 'Our schools are underfunded, how will you deal with this?' I said: 'Changing schools is not just about money, but how to use it.' The district had more than 200 teachers in excess but no funds for school maintenance. Second: 'How will you change Z to be a performing district?' I answered: 'I am not the principal, you are, and there are clear roles and responsibilities of teachers and principals; you will change the schools not me.' Third: 'Is it politically correct to bring you*

*here?' I said: 'This is not parliament. I am meeting principals to deal with the curriculum, this has nothing to do with politics'.*

*From then there was order in the meeting; the support was overwhelming. I presented a four-year plan. No questions. On the way home I got a lot of calls of support. The next day I visited a school which had a 3% pass rate. Learners were outside when I got there and four teachers were absent. All the teachers were sitting in the staffroom. Only one teacher (from Swaziland) was ready to teach. I told the principal that she was not ready to lead and that she should stay in the district office from the next day and not come back to school. I brought a new principal (who is still there now), who was a very good HOD in another school. At the end of the year, the pass rate was 71%.* (By 2013 the pass rate had risen to 76.9%: see Figure 1).

*The following day I went to another school, where the pass rate was 16%. I asked the principal why learners were failing. She complained about stress, non-cooperation from SGB, etc. I said to her that I'd come to take her out of the school and my job was to get a new principal. She was so relieved she wanted to call the whole school to tell them. I said, no, when we have good news we will tell them. I told the Deputy to stand in and brought a new principal after two weeks, who is still there and the school is performing at 80% (by 2013 the pass rate was 90.9 %).*

*Every afternoon I called an underperforming school to present their turnaround strategy. Principals must take responsibility and present the plan themselves. Schools don't need winter schools: they need contact time. On Sundays, we would ask schools to invite all their stakeholders (traditional leaders, healers, pastors, parents) and asked principals to present their results.*

*The criticism from stakeholders embarrassed them: learner pregnancy, drugs, everything comes out. I didn't want to waste my time getting reports from circuit managers, I went to schools and they [the district officials] followed me. I would walk into a staffroom and they didn't know me, with the teachers eating vetkoeks and gossiping and I would find out exactly what's going on.*

The NEEDU interviewer then asked Mr X how he had managed to forge a better relationship with the unions. He replied:

*I called the [SADTU] chairperson and met them in the evening, to discuss. I asked them what they want[ed]. They would say: 'Hey, meneer, give so-and-so the HOD post, he's good'. But they meant he's good in the branch meeting, not the classroom. I changed their attitude, they understood me. They were talking about broad issues that had nothing to do with the classroom. I focused them on the curriculum, brought sense into the discussions. Set targets, timeframes. I worked nicely with them, they respected me. I changed their attitude.*

*I don't count toilets when I go to schools, or look at broken ceilings. I want to see the School-based Assessment. Our CMs sleep tired every day, without touching the issues. We have a country that is used to blame others for their failure. They complain that teachers don't prepare, but it's just a song, they don't do anything about it. I ask them, how long has this been going on, and what is the end date for this problem? All these problems occur under our leadership: it's not Zuma's fault, it's OURS!*

District Z has shown steady improvement in NSC results since Mr X's intervention in 2010 (Figure 1), and the association between these two events is hard to avoid.

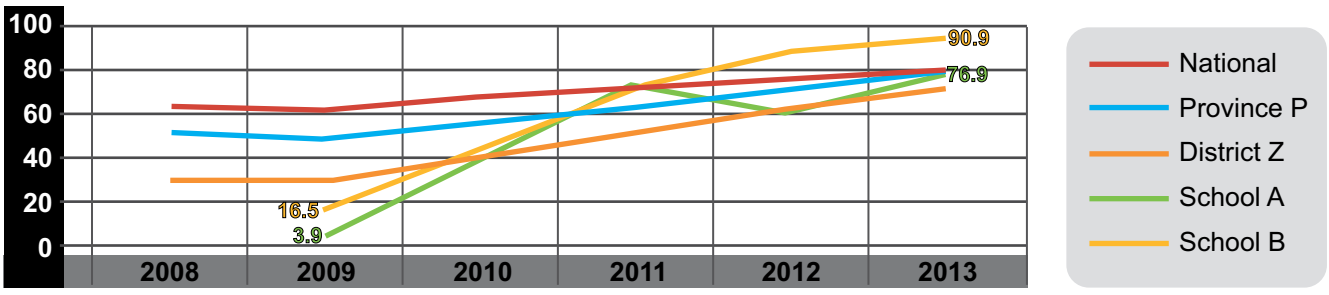


**Figure 1: NSC pass rates 2008-2013, District Z**

The mean pass rate for District Z exhibits a sharp turnaround in 2010, with equally steep improvements in each subsequent year. Although the national and provincial means also show positive gradients over this period, District Z is improving at a faster rate and converging on both the provincial and national trends. Even more impressive are the radical changes in direction brought about in Schools A and B, visited by Mr X in his first week in the district.

A number of features of Mr X's approach to district leadership stand out. One lesson from this example is that, in a climate of union militancy, in this case accompanied by political instability in the region, teachers and their curricular concerns are collateral victims in a battle for promotion posts between the union and government.

Levy (2011) would characterise this as predatory behaviour by an organised interest group, an attempt to appropriate for its users more than their fair share of public resources. What Mr X shows – through a combination of personal charisma, knowledge of the law, and a clear understanding of the purpose of schooling – is that skilful leadership can challenge predatory activity with confidence and success, while avoiding the political terrain entirely. Indeed, the last of these elements played a large part in his success, undercutting the ground on which his antagonists stood: *'… he's good in the branch meeting, not the classroom.'* Instead, he used persuasion and a curriculum-centred agenda to woo them to his point of view: '*I worked nicely with them, … I changed their attitude.'*

A second element of Mr X's leadership ability is his refusal to hear complaints, pushing the onus for rectifying the causes of their dissatisfaction right back to the complainants. *'I am not the principal, you are, … you will change the schools not me.'* A strong sense of personal responsibility is, for Mr X, an essential attribute of a school leader.

Third, he recognised that not any educator is capable of managing the complex mix of tasks required to lead a school, and was quick to replace principals who were clearly not coping. He did this rather peremptorily with the two principals mentioned in Box 5, but these were extreme cases of school malfunction and the principals seemed relieved to be pushed into office jobs and escape what was clearly an uncomfortable situation for them. Mr X went on to explain that he had in a number of other cases of poor school leadership placed principals on mentorship programmes, where they shadowed successful principals for a six-month period, while being relieved of duties at their own schools. Principals who baulked at this option were liable to face charges of maladministration, but generally they saw the wisdom of Mr X's form of educator development for school leaders and were willing participants.

A final point in the interview with Mr X that is relevant illustrates the relationship between inefficient post provisioning management and the availability of resources for important non-personnel expenditure: '*The district had more than 200 teachers in excess but no funds for school maintenance*.'

Good leadership is in evidence at all levels of the system; these examples not only serve as an inspiration to other leaders, but provide practical advice on simple steps to solve seemingly intractable problems. While it is dangerous to draw general lessons from two examples, the dramatic turnaround effected in Schools A and B (Figure 1) suggests that a great deal of inefficiency could be squeezed from the system merely by appointing the right principals. This is a proposition worth exploring. Mr X's success makes the same point with respect to district leadership.

Internal discussions within the DBE on how to improve the selection of school principals reflect concern about inadequate selection and interviewing skills in some of the SGBs, leading to inappropriate appointment of principals, and causing poor delivery of education in schools. These discussions take as their starting point a recommendation in the National Development Plan (NDP) calling for a change in the appointment process of principals to ensure that appropriately qualified and competent individuals are attracted to become school principals.

The DBE discussions explore the possibility that for all senior management positions, but particularly that of principal, candidates should undergo a competency assessment to determine their suitability and identify the areas in which they would need development and support.

## 5.4 Time management

The use of time in any school is considered one of the most important indicators of good leadership. In the theory that frames the NEEDU evaluation design the optimal use of time for teaching and learning is postulated to be a primary lever for improving performance (Table 2). Yet, short of paying a number of surprise visits to each school, this is one of the most difficult factors to assess accurately. Absenteeism of teachers and learners was assessed in schools visited by NEEDU in 2013 by looking at attendance registers, while punctuality both in the morning and after breaks was assessed through observation and interviews with teachers and SMT members. Information on extra-curricular disruptions to the school day – in the form of sports meetings, choir practice, training courses, union meetings or funerals – was also derived from the interviews. The coherence of the time management regime of the school was assessed by triangulating the responses of the various interviewees.

Table 15 shows that late-coming among learners

was more of a problem at monograde schools (a major problem in 40% and moderate problem in 35%) than in their multigrade counterparts (16% and 22%, respectively). This is somewhat counterintuitive, given that multigrade schools are often situated in remote areas in which learners may have to walk long distances to and from school. Among teachers, punctuality in the mornings was reported not to be a problem in most schools (86% monograde and 92% multigrade). Absenteeism did seem to be more of a problem among teachers in monograde schools (24% serious or moderate) compared to multigrade schools (13%). However, absenteeism among learners was marginally more lax in multigrade (43% serious or moderate) than in monograde (38%) schools.

**Table 15: Late-coming and absenteeism**

| Subsample | Extent of problem | Percentage of sample | | | |
|---|---|---|---|---|---|
| | | Late-coming | | Absenteeism | |
| | | Teachers | Learners | Teachers | Learners |
| MONOGRADE | major | 6 | 40 | 4 | 14 |
| | moderate | 8 | 35 | 20 | 24 |
| | not | 86 | 24 | 76 | 62 |
| MULTIGRADE | major | 3 | 16 | 8 | 22 |
| | moderate | 5 | 22 | 5 | 21 |
| | not | 92 | 62 | 87 | 57 |

Table 16 shows that getting to class after breaks is a considerably worse problem among teachers in monograde schools (34% major or moderate) than in multigrade (6%) schools. The same situation occurs among learners (48% major or moderate in monograde, compared to 15% in multigrade schools).

**Table 16: Getting to class after break**

| Subsample | Extent of problem | Percentage of sample | |
|---|---|---|---|
| | | Teachers | Learners |
| MONOGRADE | major problem | 9 | 13 |
| | moderate | 25 | 35 |
| | not a problem | 66 | 52 |
| MULTIGRADE | major problem | 3 | 5 |
| | moderate | 3 | 10 |
| | not a problem | 93 | 85 |

Regarding extracurricular disruptions to the timetable, this is a major problem in both kinds of schools, described by principals and teachers as frequent in 28% of monograde and 29% of multigrade schools (Table 17).

**Table 17: Extracurricular disruptions to the timetable**

| Subsample | Extent of problem | Percentage of sample |
|---|---|---|
| MONOGRADE | frequent | 28 |
| | occasional | 38 |
| | seldom | 33 |
| MULTIGRADE | frequent | 29 |
| | occasional | 23 |
| | seldom | 48 |

## 5.5 Language

In contrast to the urban schools visited by NEEDU in 2012, which exhibited generally high levels of language heterogeneity, in most of the multigrade schools[9] visited in 2013 most learners spoke the same language, and in the large majority of cases, this was also the home language (HL) of their teachers (Table 18).

9. This data was not collected from the monograde schools.

**Table 18: Home languages of learners and teachers**

| | Percentage of sample |
|---|---|
| HL of most teachers matches HL of most learners | 79 |
| HL of most of the learners matches the LOLT of the FP | 74 |
| HL of most of the learners matches the LOLT of the IP | 24 |
| HL of most of the teachers matches the LOLT of the FP | 76 |
| HL of most of the teachers matches the LOLT of the IP | 24 |

As expected, schools visited in Gauteng were more like the urban schools visited in 2012 with respect to language issues: in Tshwane West, two schools reported having seven languages spoken by their children at home, one had six including Shona, one had four, two had three and two had two. In one class the teacher, a Setswana speaker, said she could translate from English into the home languages of all her learners, except Shona:

> *I tend to ask the clever Shonas to translate for the others... I do translate to all the other languages except Shona, as I cannot do so.*

In another village school in Bohlabela learners speak one or more of four languages at home. Sepedi dominates (about 70%), followed by siSwati (20%), isiZulu (5%) and Xitsonga (5%). The LOLT in the FP is Sepedi, but even Sepedi speakers struggle, as the language they speak at home differs from the Sepedi used in textbooks, the ANA tests and the DBE workbooks. The principal explained:

> *In general, the language that is spoken in the community is not the correct language. One cannot say whether it is Isizulu, Siswati, Xitsonga or Sepedi. They mix all of them up and it affects the learners …*

However, these examples aside, the problem of more than one HL spoken by learners in one class is not nearly as prevalent a phenomenon as it is in urban schools. Problems related to the changeover to English in the IP are more pronounced in these rural schools. While the principals of 90% of monograde and 92% of multigrade schools visited said that the changeover posed a serious problem to teachers and learners alike, only 22% of monograde and 16% of multigrade principals said they had a programme aimed at addressing this issue. Under these circumstances the training programmes in English offered to teachers by the British Council, in collaboration with the DBE, serve a very pressing need (see section 5.9.3 below).

## 5.6 Books

It seems that most schools do not understand the importance of structured reading material, with only 29% of monograde and 23% of multigrade schools having an adequate supply of readers. This is evidently a national problem. Graded readers provide structured progression, guiding learners through progressively more complex texts while providing sufficient practice at each stage of the process. It is essential that these be written originally in each respective language and not translated from English, since each language has its own characteristic set of sounds and common words. While the national catalogue has many books in all official languages, labelled as graded readers, a recent evaluation of a wide spectrum of these materials led to the conclusion that many of them were not satisfactory, largely because they had been translated from English (SAIDE, 2012). In a parallel study Katz found that translations were implemented without any cognisance of the structural features of African languages (Katz, 2013a, 2013b).

Comparing the language complexity of the entry level Afrikaans and English readers with that of the readers in African languages, Katz concluded that when translated into the latter, English texts lose the element of grading and result in long, often complicated words, or even phrases, made up of many letters and syllables.

With regard to mathematics textbooks, only 41% of monograde and 50% of multigrade schools visited by NEEDU in 2013 issued texts to all learners in the IP. More encouragingly, 75% of monograde schools issued language textbooks, but only 44% of multigrade schools did this.

Part of the lack of understanding of the importance of books is the practice of not permitting books to leave the school. Thus only 62% of monograde and 35% of multigrade schools allow learners to take books home. Similarly, while 82% of monograde

**Care in managing and displaying books reflect an environment conducive to reading**


**Neglect of reading materials indicates a lack of understanding of their importance**

schools had a book retrieval system, only 42% of multigrade schools did. These practices, too, reveal a misconception of the role books play in the process of education: these are not objects to be locked away and taken out on special occasions; learning to live with books and love them is the very purpose of schooling.

Against this background, the DBE workbook project is a critically important resource. Nearly 24 million language and mathematics books were distributed to children in Grades 1-9 across the country at the start of the 2013 school year (Department of Basic Education, 2013a). By February Book 1 (for use in the 1st semester) had been delivered to 98% of schools, and Book 2 (2nd semester) to 97%. NEEDU data collected in 2012 and 2013 (see section 6.4.3 below) corroborates these claims. The Department estimated that it had saved R70 million by producing the books in-house. This is a substantial achievement, and particularly valuable in a system chronically short of books in many parts of the country.

In view of this achievement, the verdict of the Public Protector with regard to workbook delivery problems experienced in parts of the Eastern Cape in 2012 may seem somewhat harsh:

> *… it is clear that the right to basic education is viewed as an imperative right and that the failure to provide resources complementing the right, in this case workbooks, constitutes a violation of the right to basic education.*
>
> Public Protector, 2013: 51

The Public Protector is right to point out that those learners who do not receive the full service provided to others are experiencing discrimination. Furthermore, in this instance, as is so often the case, those who were discriminated against are among the poorest in the system. The most important reason for demanding 100% is equity.

The Public Protector makes another point about administration, identifying a number of components of the systems failure in the delivery of the workbooks: having no provincial delivery plan, no dedicated person to coordinate the process in the province, the use of year-old data on learner numbers and languages, no consultation with school accounting officers prior to delivery, and no specification that schools check delivery. In other words, an integrated set of business processes, necessary for ensuring successful delivery of books, was not in place. Ironically, the DBE adopted a centralised mechanism for delivery because provincial systems in many parts of the country are unreliable, a decision justified by the high levels of success achieved in the delivery of workbooks in 2013. Nevertheless, a centralised system that has so little communication with recipient schools cannot be a long-term solution to book delivery.

## 5.7 Monitoring

### 5.7.1 National

The volume of data issuing from the DBE has been steadily increasing over the last two decades, and the rate has assumed a sharply upward gradient in the last five years. The 2011 School Monitoring Survey provided a particularly rich source of new information on performance of the system and its response to national and provincial interventions. This data supplements the wide variety of sources on which the DBE continues to draw in monitoring the system, including Statistics SA, the Southern and East African Consortium for Monitoring Educational Quality (SACMEQ), Progress in International Reading Literacy Study (PIRLS), Trends in International Maths and Science Study (TIMSS) and the National Schools Effectiveness Study (NSES). Not only has the volume of information increased significantly, but the timeliness could hardly be improved; for example, three substantial reports on each of the NSC and ANA were issued in 2013 within weeks of each assessment. The ready availability of data, in turn, has stimulated analysis and a host of reports on trends with respect to key indicators formulated in the *Action Plan.* Those drawn on most heavily by the present NEEDU report are listed in Table 9, which also indicates the sections of the NEEDU report in which we make most use of this data.

These gains in the field of data generation and analysis are important advances, allowing access for secondary analysis to any party through the DBE website. However, like all positive developments, the gains bring heightened expectations. One of these is best expressed by the DBE *Country Report* (Department of Basic Education, 2013b), which concludes that, in the quest for more evidence-based education planning in South Africa, insufficient utilisation of data is a larger problem than data quality or the availability of data. This is an important point: it is in the use of data that accountability is demanded, not in its mere production.

Various mechanisms relay information, against the *Action Plan* targets, upwards from schools to districts, provinces and the DBE (Department of Basic Education, 2014c). If anything, reporting demands should be reviewed in order to reduce the administrative burden on the system and streamline the processes. The Annual Academic Report template for 2012, for example, is 18 pages long. Much of this information (school address, circuit location, GPS coordinates, teacher qualifications, etc) should be on the system and not require annual repetition. Other information should be collated continuously by the system from periodic returns entered by school administrators (e.g. learner attendance, SBA, ANA scores). Questions have to be asked about the value of each item of information demanded from successive levels of the system, and the extent to which the information gathered is used.

### 5.7.2 Provincial and district

Circuit Maagers (CMs) are the officials responsible for ensuring that schools function smoothly and provide the conditions necessary for learning. CMs are relatively well supplied and in all districts visited by NEEDU in 2013 the ratio of CMs to schools was in the order of between 1:25 and 1:40, with the high end of this range occuring only where there were vacancies in the district office.

The first feature of well-run institutions is the effective use of time. NEEDU evaluators saw many schools in which this was the case, and in some cases it was clear that schools had a good relationship with their CM and that this enhanced institutional strength. However, Table 15, Table 16, and Table 17 indicate that time is wasted more freely in rural schools than was the case in NEEDU's sample of 133 urban schools seen in 2012. Things were particularly lax in the larger schools compared with their multigrade counterparts. In monograde schools, which contributed 80% of pupils in the 2013 NEEDU sample, learner late-coming is a serious problem in 40% of schools and a moderate one in a further 35%, to give just one example of the poor to very poor use of time in these rural schools. While achieving greater efficiency in time usage is the responsibility of the principal in the first instance, where the principal is doing a mediocre job the CM becomes accountable and must act. Clearly, many CMs are not meeting these obligations, perhaps not surprisingly, given the way many of them have been appointed (see5.3).

Subject advisors (SAs) are responsible for working with teachers, in guiding curriculum delivery. They therefore have a wide remit, which includes the entire field of curriculum, assessment and pedagogy. SAs are distributed very thinly, with a strong skewing towards working with high schools, and there mainly with FET teachers. Under these circumstances, the question has to be asked as to the appropriateness of the current model of SA intervention, which assumes the SAs can influence teacher effectiveness, working with teachers directly in their schools. The low ratio of SAs to schools, not uncommonly in the range 100-200, means that their direct impact on individual schools and teachers will inevitably be very light.

One factor identified by a majority of SAs interviewed by NEEDU as an important indicator of curriculum delivery was learner writing, and these SAs all said they examined learner exercise books to compare writing quality against Curriculum and Assessment Policy Statements (CAPS) specifications. No mention was made of monitoring reading.

### 5.7.3 School-level monitoring

School-level leaders, in particular HODs, monitor and support the work of teachers. These functions are two sides of the same coin – monitoring is done to ascertain the needs addressed through various support strategies

#### Time

The first responsibility of a school principal is to ensure that learning time is maximised. Insisting on attendance, punctuality and a focus on work when in class not only optimises the use of time, but through such behaviour learners learn self-discipline and the value of good work habits. NEEDU estimates that such a culture is maintained in around 60% of rural schools, which is far too low. Changing a culture of loose time management is not easy and requires a combination of inspirational leadership and consistent application.

The question of teacher absenteeism is a particularly difficult nut to crack, given the chronically high levels exhibited across the system (Reddy et al., 2010) and the fact that teachers have become habituated to thinking of the generous allocation of sick leave for cases of prolonged illness as a right to be taken in full. Another area in which a great deal of time is not best used is examinations in June and November and the writing of ANA tests in September (see Table 32 and ensuing discussion). The system needs to be moved in the direction of no marking or administrative duties to be performed by teachers during school hours. This is work that should be done in the afternoons.

#### Reading

What NEEDU evaluators heard from SAs at district level regarding the monitoring of reading was echoed at school level. Very few considered systematically listening to learners' reading important. Where it was mentioned, it was usually in the context of holding reading competitions, where a few of the best readers would read in public. SMT members echoed this view (Table 19). Thus, the most fundamental capacity to be learned in primary schools – reading with comprehension – is left unmonitored in the majority of schools.

**Table 19: Does the SMT monitor learner reading?**

| Subsample | Response | Percentage of Sample | |
|---|---|---|---|
| | | SMT members | Teachers |
| Monograde | no | 63 | 77 |
| | yes | 37 | 23 |
| Multigrade | no | 76 | 69 |
| | yes | 24 | 31 |

### Writing in mathematics and language books

SMT members and teachers were also asked whether writing was monitored by HODs and other SMT members. Here the response was overwhelmingly positive, except in many multigrade schools, which do not have formal SMTs and where the principal and other senior teachers generally have full teaching loads (Table 20). However, monitoring learner work is another function that could be done after school hours and multigrade principals have no excuse not to undertake this important work.

**Table 20: Does the SMT monitor learner writing?**

| Subsample | Response | Percentage of sample | | |
|---|---|---|---|---|
| | | SMT | | Teachers |
| | | Mathematics books | Language books | Mathematics and language books |
| MONOGRADE | no | 3 | 10 | 19 |
| | yes | 97 | 90 | 81 |
| MULTIGRADE | no | N/A | 30 | 43 |
| | yes | N/A | 70 | 57 |

The bigger problem regarding monitoring writing is that, while it seems that SMT members go through the motions, it is clear from the quantity and quality of learner writing seen in these schools (see sections 6.4.1 and 6.4.2) that this task is done in a superficial manner, since the writing seen in learner books is well below curriculum expectations.

### Appraising teacher performance

The question of teacher observation has become politicised and bureaucratised to the point where it not only misses serving a useful function, but indeed has become counterproductive, taking up enormous amounts of time and energy without much being achieved. The point is illustrated by the analysis of the Integrated Quality Management System (IQMS) process for 2012, which concluded that, of the 446 395 educators rated (364 075 teachers, 47 969 HODs, 14 952 deputy principals and 19 399 principals), 69.7% were rated as 'good' or 'outstanding', scoring at least 70% on the performance appraisal system (Department of Basic Education, 2013e). A further 29.8% were rated as exhibiting level 3 performance ('Meets minimum requirements': 50-69%). The performance of a mere 0.59% was considered 'unacceptable'. These figures are diametrically at odds with conclusive evidence over the last decade that South African scores on comparative reading and mathematics tests fall well below those of a number of much poorer countries, including Swaziland, Kenya, and Tanzania. The question has to be asked as to how the overwhelming majority of teachers are deemed to be performing very well, while systemic performance is so poor.

The Ministerial Committee appointed by Minister Pandor in 2008 to investigate the establishment of NEEDU (Department of Education, 2009) examined the anomaly between poor school performance and high teacher ratings on IQMS. The Ministerial Committee report explained the anomaly in terms of three factors. First, most teachers, together with members of the development support groups set up within schools to assist in the process, do not know how to conduct an effective analysis of teacher performance. Neither do they know how to prioritise teacher development needs.

Second, the criteria for evaluating teacher performance do not include measures identified in the research literature as constituting effective teaching, such as time on task, appropriate use of textbooks and materials, good communication, motivation, and the importance of positive feedback. The committee further noted that the existing list of performance standards is cumbersome and time-consuming, generating considerable volumes of paperwork for HODs, and do not adequately capture the most important core function of schooling, namely the level of learning achieved by learners. In short, the evaluation instruments do not allow officials to identify and probe the real factors that drive performance.

The third factor responsible for inappropriate teacher ratings derives from combining appraisal for development and appraisal for performance measurement in a single instrument. The Ministerial Committee speculated that educators are likely to become solely interested in the sanctions or rewards attached to the performance appraisal component instead of identifying their weaknesses and developmental needs. In short, teachers are tempted to manipulate the system to qualify for a pay increase or progression, rather than using it to understand their own shortcomings and to seek assistance to address these.

During their visits to schools in 2013 NEEDU evaluators asked both SMT member and teachers whether classroom observations of teachers were undertaken, outside of the IQMS process. The results are shown in Table 21.

**Table 21: Does the SMT observe teaching?**

| Subsample | Response | Percentage of sample | |
|---|---|---|---|
| | | SMT | Teachers |
| MONOGRADE | no | 51 | 53 |
| | yes | 49 | 47 |
| MULTIGRADE | no | 60 | 54 |
| | yes | 40 | 46 |

The results indicate that, at best, SMT members observe teachers in their classrooms in no more than half of the schools visited. The most common reason advanced by SMT members and teachers alike for why this did not happen was that SMT members were too busy to undertake classroom observations. Many also said that it was not union policy to allow SMT members into members' classrooms.

## 5.8 The Annual National Assessment

### 5.8.1 ANA 2013

As shown in Table 9, the ANA tests form an important part of government's plan to improve schooling. They serve to monitor progress towards the targets set for the system. The tests also serve as diagnostic instruments for teachers and their support systems, to identify areas of the curriculum requiring particular attention.

The DBE's report on the 2013 administration of ANA conceded that much needs to be done to strengthen the reliability and validity of the data before it can be used with any confidence to monitor trends in performance over time. A large part of the problem lies in ensuring that the tests are strictly comparable from one year to the next, a situation that did not pertain in 2013. Nevertheless, in the very next paragraph, the report goes on to say that '… In 2013, the overall results for ANA in Grades 1–6 point towards an upward movement of test scores …' (Department of Basic Education, 2014b, p3). This is followed by tables juxtaposing the 2012 and 2013 scores. This is somewhat contradictory: the DBE cannot, on the one hand, say the tests are not comparable and, on the other, conclude that there is an upward trend. We would recommend that each annual report should reflect only the scores for that year, since they do not necessarily bear any relation to those for previous years, until such time as the tests are equivalent.

In the NEEDU 2012 report we described how the tests were having a positive effect on teaching and learning in schools, but expressed reservations as to whether a single set of tests could serve both as diagnostic tools for teachers and as measures of systemic progress. Those features of the tests that make them suitable for diagnostic purposes – the fact that the items are seen by teachers – make them difficult to render comparable and hence unsuitable for measuring systemic progress. On this point, the DBE *Indicator Report* on progress against certain indicators (Department of Basic Education, 2013c, p. 3) notes that:

> *A larger challenge, however, is to ensure that the Annual National Assessments (ANA) programme is strengthened incrementally so that it is able to produce the kind of monitoring information required of it, whilst it also serves as a catalyst for better teaching and learning in the classroom.*

An important step forward for ANA in 2013 was the introduction of a verification exercise through which a sample (9%) of schools was monitored during test administration, and the scoring and analysis done by an independent contractor. A comparison of mean scores for tests administered and marked by teachers with those administered externally reveals relatively small differences. Interestingly, for HL, which shows the largest difference, and also the greatest variation between provinces, seven provinces show a negative difference. This means that the scores for the test marked by teachers were below those of the external test, which would seem to indicate that wide-spread cheating did not occur, but why teachers would mark more stringently than the external markers is not easy to answer. Officials in one province complained that the tender for the verification exercise was awarded late, hence the administrators at some schools were not up to standard. Nevertheless, conducting the verification exercise is an important step forward for ANA, as long as the administration is improved in 2014.

The reason why the verification exercise is important is that these tests are not seen by teachers, and hence the same tests, or at least significant parts, can be used year after year, rendering them very suitable for measuring change over time. It is recommended that the verification exercise serve as a measure of systemic progress and that the universal exercise be used solely by teachers and schools for diagnostic purposes.

### 5.8.2 Use by provinces and districts

The provincial education departments are all well aware of the diagnostic potential of ANA and are putting plans in place to activate this potential at school level. The example of the Eastern Cape

serves to illustrate the point. The ECDE has used the ANA outcomes to create a provincial framework for improvement. Officials articulated this framework in two circulars that were sent out in January 2013. According to a senior manager in the province, Circular 1 focussed on the following teaching and learning deliverables for General Education and Training (GET): a) Improvement in ANA, b) CAPS implementation and c) Subject committees in schools, districts and head office. Circular 2 concentrated on the ANA improvement plan. The official added:

> *The ANA Improvement Plan identifies key findings or weaknesses of learners, gives teaching remedial hints, provides templates for schools and districts. These are individually crafted improvement plans. They are given due dates. All Districts must have the schools' improvement plans in language and mathematics by the end of February.*

The focus for February was for the schools to develop the theory (ANA improvement plan) and this was to be put into practice from March onwards. The implementation of the plans was to be monitored by district officials. The education development officers were expected to demand the plans while the SAs were to provide content and monitoring support.

The ECDE plans for utilising ANA scores were typical of what NEEDU researchers heard in all nine provinces and many districts. The approach of the FSDE seemed to be more successful than most in facilitating the effective use in schools of ANA results (see Box 7). However, in most provinces, there is some way to go before these efforts begin to gain traction at the school level, as we show in the following section.

### 5.8.3 Use in schools

NEEDU evaluators asked both SMT members and teachers how the ANA scores were used at the school. The results illustrate the difficulties involved in activating national plans down to the school level. In only 5% of monograde and 3% of multigrade schools visited did NEEDU evaluators find evidence that school leaders and teachers were using the scores to guide teaching, disaggregating the scores by item to illuminate progress with specific curriculum topics. A further 37% of both mono- and multigrade schools said they were using the results, but it was clear that, at best, this meant taking cognisance of only the average scores to motivate greater effort in a general sense. These figures indicate that schools are becoming aware of the potential of ANA, but are not yet in a position to put this potential to much use. Nearly 60% of schools in the NEEDU sample were not attempting to use the scores at all. It is obvious that teachers and school leaders need more specific guidance on how to capture and analyse the ANA scores, and how to use the results productively in their classrooms.

The last point is starkly illustrated by the fact that many schools either did not have a copy of their ANA scores, or had a copy that reflected the results in a very different format to that published by the DBE. In many cases not only were the results in a different format, but the scores also differed significantly quantitatively. Appendix 3 provides evidence of this phenomenon from a subsample of 50 schools. Table 22 summarises the information for Grade 6 scores, which shows that data derived from schools matched the national database for mathematics and first additional language (FAL) in only one-third of schools, although this rose to two-thirds in the case of HL scores.

**Table 22: Match between school and DBE ANA scores, Grade 6 2013**

| Sample of 50 Schools | Percentage of sample | | |
|---|---|---|---|
| | Mathematics | Home Language | First Additional Language |
| Two sets of scores match | 33 | 67 | 38 |
| Schools with discrepancy >10 PP | 24 | 24 | 43 |

Particularly puzzling is the fact that the two sets of scores differed by more than 10 percentage points in the case of mathematics and HL in one-quarter of schools and in 43% of schools in the case of FAL. The most likely explanation for these differences is that schools either do not retain records of their marks at all or, where they do, many are unable to perform the simple analyses required by the DBE. Either way, it seems that schools require a great deal of help before they will be in a position to utilise the ANA data productively.

## 5.9 Support to teachers and schools

### 5.9.1 Programmes to improve the quality of reading instruction in primary schools

The DBE is pursuing a number of initiatives aimed at achieving the goals of the *Action Plan to 2014.* We focus here on attempts to improve the teaching of literacy and mathematics, and of reading in particular, in the GET phase. The *National Reading Strategy Grades R-12* (NRS) (Department of

Education, 2008) was developed by the DOE in 2008 as a national strategy to address the growing concern over illiteracy, and to promote a nation of life-long readers and life-long learners. The NRS was closely followed by the Integrated *National Literacy and Numeracy Strategy* (INLNS) (Department of Basic Education, no date), which was the Department's response to the need for urgency in addressing the low achievement levels of learners in literacy and numeracy. In November 2011, the Council of Education Ministers (CEM) resolved that the INLNS should be implemented in 2012, emphasising that the strategy should target the classroom and teachers as key levers for change in learner performance and be guided by the Department's priorities (CAPS, ANAs and the workbooks).[10] The INLNS is a high-level plan that aims to direct and integrate provincial initiatives, which in turn are expected to provide detailed plans for districts and schools 'down to the classroom level'. The INLNS stops short of recommending specific programmes for use at the classroom level, the choice of which is left to provincial departments.

In the NEEDU 2012 National Report the Literacy and Numeracy Intervention (LNI) of the WCED and the Gauteng Primary Language and Mathematics Strategy (GPLMS) of the Gauteng Department of Education were discussed in some detail. These programmes continue, and brief updates are reported in Appendix 4. A very important lesson arises out of the progress shown by the LNI and GPLMS. Both have been in operation for at least three years, yet neither has been able to demonstrate any impact on learner performance. Both have recorded significant learning gains in classes benefiting from their interventions, but neither could demonstrate convincingly that these effects are due to the interventions. In the case of the LNI the problem was one of evaluation design, which lacked a counterfactual, or comparison group. In the case of the GPLMS, significant learning gains on the ANA tests were recorded by classes receiving the programme, but this may have been due to changes in the tests between the two sets of measurements. The last point illustrates the importance of first ensuring that the ANA tests, at least the verification component, are strictly comparable from one year to the next. Second, in order to render the verification ANA suitable for measuring system-level change at the provincial level, it must work with a sufficiently large sample. Finally, evaluations must be designed prior to implementation and contain controls that enable confident comparison of treatments. Box 6 describes how a rigorous evaluation of the Systematic Method for Reading Success (SMRS) provided unambiguous conclusions about the value of the programme.

## box 6 The Systematic Method for Reading Success

The SMRS assumes that the best way to motivate lifelong reading is to ensure that learners are successful and excited as they learn the reading process (Piper, 2009; Hollingsworth, 2009). A central idea is that learners should read successfully from the first day of school, in their HL, using their names as their first sight words. They soon go home able to read a story and knowing that they are readers. This is a structured programme by means of which learners are systematically introduced to letter sounds, blending sounds into words, recognising sight words, learning vocabulary and comprehension skills through teacher read-alouds, then reading words in decodable and predictable stories.

Two books are required, with a total of approximately 55 lessons. In most languages, the first book uses only single-syllable words and the lessons take 30 minutes. The second book uses multisyllabic words and includes exercises to write brief stories; trade books are used as reading supplements.

SMRS is meant to be a supplementary introduction to a full literacy programme in learners' HL. Local teams develop progressively levelled stories for the first 25 lessons, using the words introduced through the programme progression chart. The teams also develop teacher read-aloud stories with comprehension and vocabulary questions. The stories are about learners' own cultures and environments, for familiarity, motivation, and pride. The programme is designed in a scripted format in a teacher's manual so that teachers with little preparation in reading instruction can teach it.

The SMRS was implemented in Grade 1 classes in 30 South African schools spread over three provinces in 2009. It was adapted to the local languages for each of the three provinces included in the intervention: North West, Limpopo and Mpumalanga.

RTI used a pre-test/post-test treatment/control group design to assess the effects of the SMRS on learning in Grade 1 classrooms in 10 treatment and five control schools in each of the provinces. The Early Grade Reading Assessment (EGRA) tests[11] were used to assess learners' reading abilities before and after the intervention. Learners were assessed in four tasks: letter sound recognition, word recognition, reading a simple passage and answering comprehension questions about the passage

The evaluation concluded that the SMRS programme had a large impact on learner achievement in letter

10. Statement by Basic Education Minister Angie Motshekga following the Council Of Education Ministers' Meeting (CEM), 18 November 2011, Pretoria. Downloaded from: http://www.education.gov.za/Newsroom/MediaReleases/tabid/347/ctl/Details/mid/1389/ItemID/3254/Default.aspx 3 May 2014.

11. These are reading tests developed in all 11 official South African languages by the DOE. They were used by NEEDU in 2012 to assess reading fluency and comprehension in Grade 2 classes in 133 schools across the country.

sounding fluency, word identification fluency, oral reading fluency (ORF) and reading comprehension after only four months of implementation, 'providing learners in treatment schools the ability to take a great leap forward towards accessing print and the written word. It seems clear that the success of the program is compelling, and worthy of additional opportunities to improve the skills of young learners from poor backgrounds' (Piper, 2009, p 43).

In addition to the LNI and GPLMS, in 2013 NEEDU evaluators also encountered Mpumalanga's School Transformation and Reform Strategy (STARS) and different LitNum Strategies (LNS) in the KwaZulu-Natal Department of Education (KZNDE) and FSDE. Evidence is gathering to indicate that provincial activity is being stimulated and directed by the DBE, through the INLNS. STARS and LNS (KZN) are in the early stages of development; neither has yet penetrated beyond the district level, and even there awareness of the programmes is patchy. At this stage it is not particularly instructive to report on their progress. We rather report below on the LNS of the FSDE, a programme that is maturing into a province-wide programme with considerable purchase at school level.

### The Lit/Num strategy of the FSDE

The LNS of the FSDE was designed to improve performance in the GET band, with special focus on the FP and IP. The LNS is implemented through district offices and its implementation is monitored regularly by SAs at both district and provincial levels. The HOD of the FSDE explained his motivation for the programme as follows:

> *Our analysis of assessment results tells us that there are no serious problems in the Foundation Phase, but we see major performance problems in the Intermediate Phase. We understand that there are many factors that impact on learner achievement in this phase, such as the introduction of a new language of learning and teaching and the quality of teachers.*

A key design element of the LNS is that monitoring and support are closely linked: analysis of ANA results leads to the identification of teacher needs, which are developed through materials and training closely aligned to the kinds of items in the tests (Box 7).

### box 7 Combining monitoring and support in FSDE

The approach adopted by the FSDE is unique in both its content and in the way it uses a very simple tool to give coherence to what otherwise might be a loose collection of disparate activities. The coordinating tool is the Subject Academic Improvement Plan (SAIP), which is derived through an error analysis of the ANA scores. The analysis is done by the province shortly after the tests have been written and then taken on a 'road show' early in the new year, led by the MEC, to centres around the province and discussed with schools, SGBs and union representatives. Schools are given guidance on how to craft their school improvement plans. In this way, the SAIP provides a mechanism for analysing weaknesses, setting targets and providing support to each school. An important part of the programme is to get schools and teachers to take responsibility for the performance of their learners.

A number of different forms of support revolve around the axis formed by the SAIP. At the primary school level, these include:

- Spelling Bees and mental mathematics competitions
- An increase in the number of SAs and equipping them with laptops and 3G cards to facilitate communication and research.
- The development of training programmes for teachers.
- The provision of incentives for successful teachers, including iPads, laptops, TV sets and grocery cheques.

The Chief Director for Curriculum in the provincial office described how the reading programme was formulated, by discussions among SAs about successful strategies they had used in their classes. The aim was to get all Grade 1 learners to write simple sentences by the end of the year, and to develop a phonics programme for use in the FP. The resulting strategy was written up and versions in the different provincial languages were prepared. The most literate 200 Grade 1 and 2 learners were commissioned to compose illustrated story books, which were printed and made available to all schools. These books must be a great source of motivation among learners to express themselves. The best teachers in each region are identified by their peers and they then lead teacher development workshops for surrounding schools.

The purpose of the *Maths 4 All* campaign is to instil positive attitudes towards mathematics and encourage learners to take mathematics at the FET level. The campaign aims to "highlight the beauty, utility and applicability of mathematics" and to debunk the myth that mathematics is a difficult, cold, abstract subject only accessible to a few. The campaign has a number of elements, including strengthening the teaching of mathematics in the FP, so that learners are better prepared when entering the Intermediate and Senior Phases. Mathematics laboratories have been established in 150 schools, providing learners with opportunities to use high-quality educational software to deepen their knowledge of mathematical concepts. Over the next few years, it is intended that the programme be extended to 750 schools. Other elements of the *Maths 4 All* programme include awarding bursaries to primary school teachers (including those responsible for teaching FP classes) to enable them to specialise in the teaching of mathematics. *Hey Maths!* is another intervention that was introduced in 80% of schools and provided on-line electronic lessons and assessment resources.

Literacy and numeracy instruction in the country is in a state of flux. While awareness about the importance of basic instruction is high, progress in understanding the best approach to take is proving to be slow. Each province seems to be in the process of inventing its own programme, with little evidence from the field to give direction. Consequently catch-all, eclectic designs predominate. Problems of evaluation design, or no evaluation at all, obscure the lessons to be learnt. Furthermore, while there is evidence of progress running through certain programmes – from the *Foundations for Learning Campaign* to CAPS, for example – there are distinct gaps in policy continuity, with the SMRS and EGRA taken no further after showing considerable promise. Yet, as we confirm in 6.4, reading, writing and calculating capacities in primary schools are in a very low state, and the most urgent need for the country's education system is to find a way to improve these foundation skills.

### 5.9.2 Support provided by districts

Regarding visits by CMs to schools, 10% of monograde and 19% of multigrade schools visited said that they had had no visits in the past year. The largest proportion (49%) of monograde schools reported having had three visits from CMs, as opposed to only 23% of multigrade schools. It seems that CMs are generally very active in schools and spend much of their time providing on-site monitoring and support services.

SAs, on the other hand, are less active in visiting schools; 24% of monograde schools and 36% of multigrade schools reported not having had a single visit from an SA in the last year, while 35% and 26%, respectively had had a single visit. This is not surprising, given the small number of SAs allocated to primary schools. Because of the high ratio of schools to SAs in primary schools, SAs have found a variety of alternate ways of providing support to teachers. The most common of these are cluster workshops held on a regional basis.

Under the circumstances it is also not surprising that the support provided by district officials is generally considered poor or very poor by 66% of teachers in monograde and 71% in multigrade schools. These figures show districts in a considerably worse light than reflected by the summary of IQMS data from six provinces in 2013 (Department of Basic Education, 2013g). The IQMS reports that 2% of district support is rated outstanding, 40% good, 46% satisfactory and 12% unsatisfactory. This is a considerably better rating than that found by NEEDU. The IQMS figures are based on 3 028 schools and are thus more likely to be reliable than NEEDU's, based as these are on only 219 schools. Nevertheless, it is possible that the less favourable view of district support found by NEEDU arises because rural schools get less support from districts, or because school personnel are more willing to talk openly to NEEDU researchers than to IQMS officials.

### 5.9.3 In-service courses

The 2012 NEEDU report provided evidence from the SACMEQ 2010 study of the low levels of subject knowledge among the country's Grade 6 mathematics and language teachers. The DBE's *Country Report* (Department of Basic Education, 2013b) uses the same data to show that, while South African teachers located in urban schools exhibit content knowledge that is fairly average in regional comparison, there is a particular problem regarding the content knowledge of rural teachers. Whereas in most of the 14 participating African countries there is little difference between the content knowledge of urban and rural teachers, in South Africa there is a marked difference. The content knowledge of South African mathematics teachers in rural areas is second from the bottom, better only than scores for rural Zambian teachers. It was appropriate, therefore, that the Minister made special mention in her 2013 budget speech[12] of a number of national and provincial initiatives that give added impetus to the question of teacher professional development.

**12.** Basic Education Budget Vote Speech, 2013/14. Mrs Angie Motshekga, Minister of Basic Education, National Assembly, Cape Town: 7 May 2013

A great deal has been happening in teacher education and development since the establishment of the Department of Higher Education and Training (DHET) in 2009 and the publication of the *Integrated Strategic Planning Framework* (Department of Basic Education and Department of Higher Education and Training, 2011) in 2011. We comment only on the two developments closest to the concerns of the present report. On the question of in-service training (INSET) the DBE reports figures that are quantitatively very impressive. In preparation for the implementation of CAPS, 6 633 SAs have been trained and over 300 000 teachers oriented to the new curriculum over the last three years. The DBE acknowledges that considerable work needs to be done to strengthen subject content knowledge gaps and teaching skills of teachers. There are examples of excellent teacher development programmes in all provinces, such as those offered by the Cape Teaching and Leadership Institute, the Gauteng Mathew Goniwe and Sci-Bono Centres, and the Limpopo Maths, Science and Technology Education Centre.

The second development that is worth making special mention of with regard to NEEDU's concerns is the Teacher Union Collaboration struck between the MBE and the organised teaching profession. Professional development institutes have been established by the three largest unions, and approximately 80 000 teachers have been trained in priority areas. A partnership with the British Council has enabled the DBE to facilitate the attendance of 240 SAs and 70 lead teachers in the Certificate in Primary English Language Teaching and Certificate in Secondary English Language Teaching courses. Five provinces have begun training teachers on the courses.

The DBE has also initiated a process of strengthening provincial teacher development institutes and district-based teacher centres to support teachers at the local level. Three provinces have well-established provincial institutes (WCED, LDE, GDE); KZNDE, and ECDE are restructuring their teacher centres; while FSDE, NCDE, NWDE and MDE are in the process of establishing institutes. Vodacom Foundation has equipped 40 district-based teacher centres and 1000 schools with information and communications technology equipment and trained centre staff and teachers to use the equipment to conduct INSET programmes. UNISA and DHET have contributed R94 m to strengthen 45 centres by March 2016, and Mindset is in the process of installing satellite and reception facilities for access to teacher development content for 82 centres.

In reporting this welter of INSET activity, the DBE notes that although the proportion of teachers deemed to be qualified (matric +3 years) rose from 54% in 1995 to 95% at present, this did not lead to the expected changes in learner performance across the system. The increase in qualifications was achieved through widespread INSET, principally by means of Advanced Certificate of Education (ACE) programmes. This fact gives cause for grave concern regarding the quality of INSET, a problem that the MBE and provincial MECs have been aware of for some time. In August 2008 the CEM meeting issued a statement discouraging universities from offering new ACE courses[13]. The council noted that the DOE had conducted a survey that showed there was an 'unseemly proliferation' of ACEs, most of which were not being used for their original purpose of improving teachers' subject content knowledge. Instead, teachers had been taking ACEs to make them better managers, whole school developers and social justice practitioners. This is a point picked up by the DBE's *Country Report*, which notes that:

> *… while such initiatives are perhaps good in and of themselves they are perhaps too piecemeal. Systematic forms of teacher support are needed… There is a need to experiment to determine what are the binding constraints to improved teacher utilisation and what interventions have the most impact on teacher outputs. In this regard, one can see that alternative models of teacher development are emerging in South Africa… and these should be rigorously piloted to ensure an evidence based approach in future.*
>
> Department of Basic Education, 2013b, p. 55

A number of important developments are under way in the terrain of professional development of educators. Arguably the most important of these is the entrance of teacher unions into providing INSET. This is a key step in reorienting the unions towards professional issues. Another particularly noteworthy development was the fact that CEM saw fit to publicly criticise the universities for providing poor quality INSET as far back as 2008, but had no power to decertify programmes, a point which applies equally to the field of initial teacher education. Above all, the capacity of the system to identify and meet teacher development needs and deliver relevant and quality programmes that address the challenges of literacy and numeracy improvement, and the diagnostic use of ANA/NSC, need a great deal of attention.

### 5.9.4 Initial teacher education

Regarding initial (pre-service) teacher education (ITE), the introduction of the Funza Lushaka Bursary programme has led to a very significant upsurge in the numbers of students entering teacher education courses. As a result, the number of headcount enrolments in ITE in public universities increased from 35 275 in 2008 to 94 637 in 2012, while the number of graduates grew from 5 939 in 2008 to 13 740 in 2012. The plan is to produce 20 000 new teachers annually by 2019. This goal will be supported by the expansion of

**13.** Media statement following the Council of Education Ministers Meeting held at Southern Sun Hotel, OR Tambo International Airport, Johannesburg, 4 August 2008.

This goal will be supported by the expansion of infrastructure at existing universities and opening new institutions in the Northern Cape, Mpumalanga and elsewhere. In response to this increased interest among students, a number of universities have been able to increase the entrance requirements for prospective teachers, a very positive move in the interests of increased quality of newly qualified teachers.

However, here too, the quality of newly qualified teachers remains unknown. The DHET has issued the *Minimum Requirements for Teacher Education Qualifications*, according to which universities are required to redesign their programmes (Department of Higher Education and Training, 2011). While policy of this kind may specify certain parameters to be met, the extent to which it is able to mandate quality remains questionable. The last review of the sector by the Council on Higher Education revealed that the quality of programmes offered by many institutions leaves much to be desired (Council on Higher Education, 2010). Given the fact that the impact of in-service training programmes has been disappointing, the quality of ITE is key to establishing the quality of teachers in the system. For this reason, it is important that a concerted investigation by all the parties concerned – government, the universities, the Council on Higher Education (CHE), SACE and the teacher unions – into the question of ITE quality be undertaken. This is another area that attracted attention in the DBE *Country Report*, which recommended that a review be undertaken of:

> *… the content of pre-service training at teacher training institutions, particularly to evaluate whether there is sufficient attention given to subject content knowledge and knowledge of how best to teach particular subject matter.*
>
> Department of Basic Education, 2013b, p. 70

### 5.9.5 In-school professional development

The purpose of monitoring teaching practices and learning outcomes on the part of the SMT is to identify strengths and weaknesses in the school in order to build capacity. In most schools there is little or no contact between teachers on matters of curriculum, pedagogy and assessment. Teachers work in isolation behind closed classroom doors. Under these circumstances there is little room for improvement. Teachers using ineffective practices cannot learn anything new, while any potential for the best teachers to share what they do is lost. A primary function of the SMT is to facilitate the cross-pollination of ideas and practices within the school, and all instructional leadership practices should be directed to this aim.

While SAs do their best under the circumstances, they are too thinly spread and the needs of many teachers so deep that support to schools from the district cannot have much more than superficial effects on school practices. SAs should prioritise the development of school-level HODs, in order to assist HODs to maintain an in-school professional development climate. Clearly, this is an idea that has not found purchase in South African schools, with 83% of monograde and 87% of multigrade schools visited by NEEDU in 2013 saying they had experienced no such activities in their schools.

# 6 Practices And Learning Outcomes
## In The Schools Visited

### 6.1 Multigrade teaching

NEEDU evaluators observed one IP lesson in each of the multigrade schools visited. The purpose was to assess the extent to which meaningful differentiation occurred, which provided appropriate instruction for learners in each of the grades in the class. It was found that there was some degree of differentiated teaching in 41% of classes observed, but this seemed to be effective in only 11% (Table 23). This means that most teachers observed made no attempt to provide different learning experiences, appropriate to each of the respective grade levels incorporated into the class. In other words, in 59% of these classes, teachers presented the same material and the same exercise to all children, regardless of their ages and grade levels.

**Table 23: Classroom instruction in multigrade classes**

| | Percentage of sample | | |
|---|---|---|---|
| | No | To a limited extent | Substantive |
| Evidence of grade differentiation | 48 | 41 | 11 |
| Evidence of learning achieved | 30 | 49 | 21 |

No individual reading on the part of learners was seen in 83% of classes, no independent writing in 90%, while in only 5% of classes were learners seen to be asking questions (Table 24). These are common features of South African classrooms in both urban and rural schools (Hoadley, 2010). The first feature that struck the NEEDU investigators is that the pacing of the lessons maintained by teachers is painfully slow, which explains the very low quantities of writing observed in learner books. Second, and just as destructive, is the fact that children in these classes are steadily being socialised into passive recipients, subservient to whatever the teacher provides. They are not being developed into inquisitive, independent seekers of knowledge, but are taught to wait patiently while the authority figure doles out the most meagre quantities of activities to stimulate their interest.

**Table 24: Activities in multigrade classrooms**

| Were the following activities observed in the multigrade classroom? | Percentage of sample | |
|---|---|---|
| | No | Yes |
| Individual reading | 83 | 17 |
| Asking questions | 95 | 5 |
| Producing own writing | 90 | 10 |

### 6.2 Performance

One might expect performance to be lower in the rural schools visited in 2013, because of the combination of unfavourable factors discussed in section 2. These expectations are fulfilled, as Table 25 shows. The total NEEDU sample averages for mathematics, HL and FAL are all well below the national ANA scores. The multigrade schools, as a group, outperform the monograde subsample in all three subjects, possibly because teachers pay closer attention to individual learners in these small schools.

**Table 25: ANA scores for NEEDU schools, Grade 6, 2013 (average percentage correct)**

| | Math | Home Language | First Additional Language |
|---|---|---|---|
| **Monograde** | 23.41 | 33.46 | 35.58 |
| **Multigrade** | 30.97 | 37.35 | 40.84 |
| **Total NEEDU sample** | 27.37 | 35.41 | 38.38 |
| **National average** | **39.00** | **58.80** | **45.70** |

### 6.3 Reading fluency and comprehension

In line with a focus on the IP in 2013, NEEDU undertook a systematic analysis of reading performance in Grade 5 (NEEDU, 2014a). Reading comprehension is periodically tested at this level by both PIRLS (Howie et al., 2008) and SACMEQ (Hungi et al., 2010), and the poor state of reading capacity among the IP population of South African learners is well known. However, reading fluency

has not been assessed to any extent. Indeed, NEEDU's 2013 evaluation of rural schools revealed that oral reading fluency (ORF) is a blind spot not only within the schools visited, but also among SAs. There is no culture of listening to learners reading, surely the most obvious way of tracking the progress of individual learners. Therefore, the central focus of the 2013 NEEDU Reading Study was reading fluency, assessed by means of two ORF tests. At the same time, the study assessed reading comprehension by means of a written test consisting of two passages. Both tests were conducted in English, since this is the LOLT of the large majority of South African learners in the IP.

### 6.3.1 Method

In monograde schools, one entire Grade 5 class was randomly selected to be tested through a written reading comprehension test. Based on the comprehension scores, the top three, middle four, and bottom three learners were then sampled for the reading fluency test. In the case of the multigrade schools, the learner numbers were small enough to test the entire class for reading fluency, regardless of their achievement in the comprehension test.

Data was collected from most of the schools visited in 2013. In the few cases where reading data was not collected, the reasons were either associated with union disruptions to the school visits or with the absence of Grade 5 learners at the school (in the case of some multigrade schools visited in the second half of the year). In total, 1 790 learners were tested for ORF though a one-on-one reading test. Of the 1 790 leaners tested on the first passage (ORF1), 878 (i.e. 49%) read sufficiently well[14] to be tested on a second, slightly more difficult reading passage (ORF2). Table 26 shows the sample numbers in detail.

**Table 26: Numbers of Grade 5 learners tested for reading comprehension and oral reading fluency**

| | DISTRICTS | SCHOOLS | COMPREHEN-SION | ORF 1 | ORF 2 |
|---|---|---|---|---|---|
| **MONOGRADE** | 15 | 99 | 3735 | 978 | 473 |
| **MULTIGRADE** | 18 | 115 | 974 | 812 | 405 |
| **Total** | **33** | **214** | **4709** | **1790** | **878** |

### 6.3.2 The tests

#### Oral reading fluency

Grade 4 and Grade 5 textbooks were used to select two passages appropriate to Grade 5 to assess ORF. The notion of text readability was used to determine that the texts used in the test were at the right level for this age group.

The first passage (ORF1) was 205 words long (including the title), had a Flesch Readability Ease score of 84.7, making it suitable for testing learners at the end of Grade 3. The second passage (ORF2) had 269 words (including the title) and a Flesch Readability Ease of 83.3, making it suitable for testing learners in the middle of their Grade 4 year. These two passages were selected as suitable for testing learners at the start of their Grade 5 year. Five comprehension questions were devised for each passage to assess oral reading comprehension.

#### Reading comprehension

Two Grade 5 level passages were selected to assess reading comprehension in the written mode, using a range of literal and inferential questions in a mixed question format (see Table 28).

Eleven questions were asked, five based on the first passage, and six based on the second. Based on the learner results, a Cronbach's alpha analysis was done. The resulting score of 0.83 indicates good reliability of the overall test.

### 6.3.3 Results

#### Reading comprehension

The average reading comprehension score across the sample was 4.14 out of 20 (20.72%) (Table 27). Grade 5 learners in multigrade schools performed marginally better than their monograde peers.

**Table 27: Average learner written comprehension achievement**

| | [20] | Percentage |
|---|---|---|
| **MONOGRADE** | 4.08 | 20.41 |
| **MULTIGRADE** | 4.38 | 21.88 |
| **Average** | **4.14** | **20.72** |

**14.** More than 50 WCPM

The distribution of scores is shown in Figure 2.

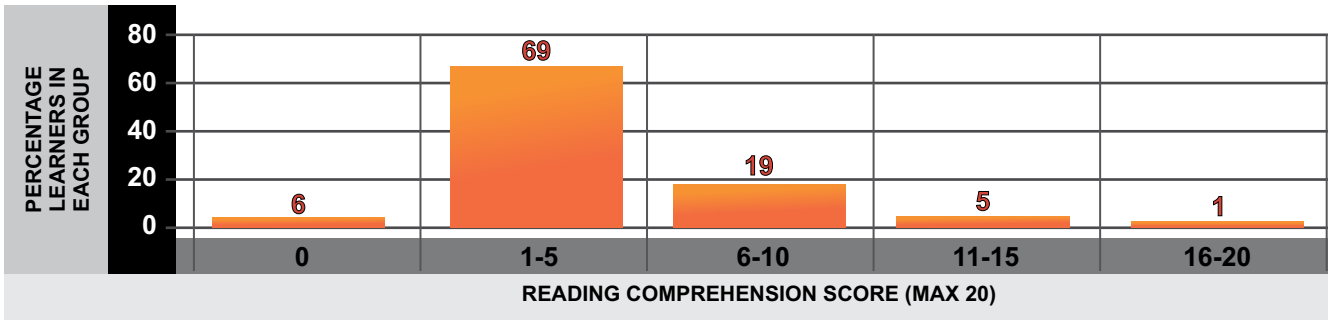


**Figure 2: Frequency count of learner reading comprehension achievement (monograde and multigrade)**

Six percent of the sample achieved a score of zero out of 20, and a further 69% achieved 5 or less on the written comprehension test. Only 6% achieved a score greater than 10 out of 20, suggesting very few learners were able to comprehend adequately what they read.

Mean scores on the different question types are shown in Table 28.

**Table 28: Learner achievement for different types of questions**

| Question type | Percentage of learners answering question types correctly |
|---|---|
| Retrieving explicitly stated information | 32 |
| Making straightforward inferences from the passage | 26 |
| Integrating ideas and information across texts | 1 |
| Examining and evaluating the text | 1 |

As few as 1% of learners tested could answer questions that required them to integrate ideas and information across texts, or to examine and evaluate text.

Learners were tested in all nine provinces over 10 months during 2013. One may assume that in general, learners tested at the end of the year should perform better than those tested at the start of the year. However, a word of caution must be mentioned with this sort of analysis. The NEEDU Grade 5 reading assessment was not a panel study, i.e. it did not track the same learners throughout the year and retest them at a later stage to test progress in reading comprehension. With this caution in mind, the average comprehension scores of the learners tested in each month of NEEDU visits are represented in Figure 3.

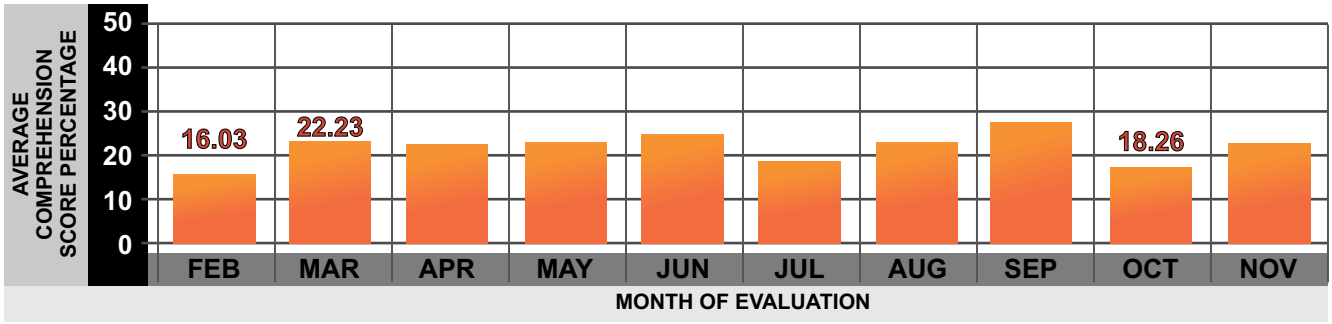


**Figure 3: Achievement progress over the year**

The data suggest that while there is a slight improvement in learner score between learners tested in February (average of 16.03%) and March (22.23%), the improvement is not maintained as the year progresses, with learners tested in October achieving a low 18.26%. When these scores are disaggregated into provincial scores, in only two of the eight provinces (Gauteng and Western Cape) where learners were tested twice or more, was any notable improvement seen among learners tested later in the year.

### Oral reading fluency

Curriculum-based measurement is a well-recognised procedure for assessing and monitoring learners' progress in reading, mathematics, spelling and writing. One such method widely used for reading is the assessment of ORF, which

focuses on two of the three components of fluency: rate and accuracy (Hasbrouck & Tindal, 2006). ORF was measured by an evaluator who listened to a learner reading aloud from an unpractised passage for one minute, noting errors made during reading. At the end of the minute, each error was subtracted from the total number of words read to calculate a score of words correct per minute (WCPM). WCPM has proven to be a good indicator of overall reading competence (Hasbrouck & Tindal, 2006). The learners who were able to read at a rate of 50 WCPM or greater were asked to continue with a slightly more difficult passage in a second reading test. The national average scores for the two tests – ORF1 and ORF2 – are shown in Table 29.

**Table 29: ORF scores**

| ORAL READING FLUENCY 1 | | | ORAL READING FLUENCY 2 | | |
|---|---|---|---|---|---|
| Average WCPM | Max WCPM | Average of Comp Qs [5] | Average WCPM | Max WCPM | Average of Comp Qs [5] |
| **46.64** | **182** | **1.34** | **79.09** | **178** | **1.54** |

The average ORF for the 1 790 learners tested in the first reading test was 46.64 WCPM. The highest score for ORF was 182 WCPM. For the 878 learners who progressed to the second passage, the average ORF increased to 79.09 WCPM and the highest score recorded (by the same learner) decreased slightly to 178 WCPM. In addition to the ORF tests, the learners were asked five questions pertaining to the parts of the passage that they had read to test their comprehension. The average score for the learners who read the first passage was just over one question correct, and this hardly improved with the learners who read sufficiently well to read the second passage.

The distribution of ORF1 and ORF2 scores is shown in Figure 4.

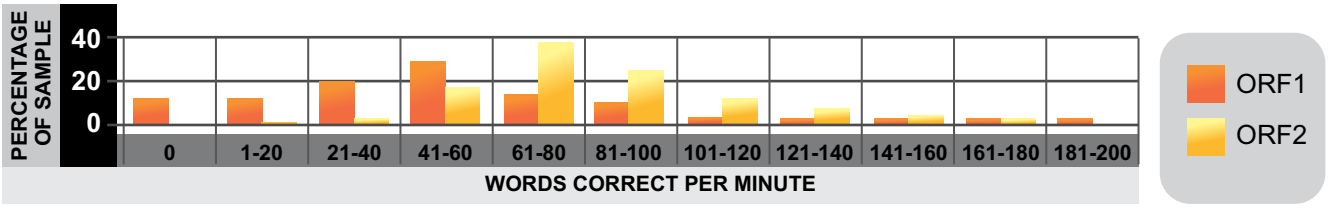


**Figure 4: Frequency distribution of ORF1 and ORF2 scores**

More than 10% of the sample could not read at all. When spoken to in English, these learners did not understand what the evaluator was asking them to do. Once it had been determined that they did not understand English and were unable to read the story title, they were excused from the assessment and their ORF was recorded as zero. A further 11.06% of learners could read only a few words, and at a very slow pace of 20 WCPM or less. Such learners are generally considered illiterate, suggesting that nearly 22% of Grade 5 learners tested are illiterate. This figure is even more alarming given that English is the LOLT for these learners and that they are expected to access their subject content by using English textbooks.

The encouraging feature of Figure 4 is that the average ORF2 score of the 49% of learners who qualified to read the second, more difficult passage, was close to the norm for this age. In other words, around half of South African children living in the country's rural areas are reading close to the appropriate level of fluency. Unfortunately, they comprehend little more than their peers who are reading less fluently.

Both good and bad news is announced by the NEEDU Grade 5 English FAL reading test. It highlights enormous discrepancies in the system, even within the same schools. Half of the learners in these schools learn to decode words on the page around the expected rate, while the other half struggle even at this level, but a large majority of learners struggle to express in writing the meaning of what they read.

## 6.4 Writing

The power of writing comes from its ability to leave a permanent trace. This allows the writer to reflect upon what has been a written, generating and refining ideas in the process. Writing is the technology that frees ideas and information from space and time attachments, giving them the capacity to reach a wide audience across continents and generations. Even more important for the development of individual learners, research has firmly established the centrality of writing in shaping the way we think, reason, and learn (Dechaismartin, 2013).

While writing helps us remember and understand ideas, information and experiences better, some tasks, such as writing summaries or analytical essays, require a deeper level of processing than answering fill-in-the blank or short answer questions. Research studies have found that the degree to which information is reformulated or manipulated through writing has an impact on how well the information is integrated, learned and retained. This finding indicates that extended writing (of paragraph length or longer) is more effective than shorter forms of writing (words or sentences) in developing the higher cognitive functions of interpretation and analysis.

For this reason an important aspect of NEEDU's evaluation methodology is to examine learners' books in order to assess the quantity and quality of writing undertaken both in class and at home. Two kinds of analysis of learner writing were undertaken. First, a **macro-analysis** looked at the English and mathematics exercise books and the DBE workbooks used by one child in each of Grades 4-6, in each of the 219 schools in the sample. This analysis produced a gross measure of the quantity and quality of writing in English and mathematics. Then a **micro-analysis** was done on a sample of the Grade 5 exercise books in English FAL and mathematics, together with selected pages of the Grade 5 DBE workbooks in both subjects, which were photocopied for that purpose. This produced a finer-grained description of learner writing.

The macro-analysis was done on site by NEEDU school evaluators and mirrored the treatment given learner exercise books in the Foundation Phase in 2012. The results describe the quantity of writing done by learners in English FAL and mathematics across the NEEDU sample, and the nature and extent to which extended writing was undertaken in English. These descriptions remain important sources of information about classroom activities and the depth and pace at which learning occurs.

The micro-analysis was undertaken by the independent service provider, Class Act, commissioned to analyse a sample of the photocopied pages (NEEDU, 2014b). The purpose was to assess the extent to which learner writing meets the expectations of the curriculum. The micro-analysis done in 2013 is an innovation, at least for NEEDU, and recognises the limits of the macro-analysis. The latter delineates broad contours – number of days on which writing occurs, number of pages written and number of exercises of extended writing – but does not articulate with any precision exactly what learners are writing and where they might be struggling. The micro-analysis begins to illuminate these latter aspects. Only a few of the conclusions of the micro-analysis are reflected below, and the interested reader is referred to the full report (NEEDU, 2014b) for further details.

### 6.4.1 Quantity of writing in exercise books

For the purposes of the macro-analysis a norm was constructed based on two assumptions: first, that learners should write in both their mathematics and English FAL books at least four times a week, and second that one page of work would be completed on each day writing was done. Therefore, the number of pages in each book examined would be given by:

Norm = Number of days of school preceding the NEEDU visit X 4/5 X 1 page.

School evaluators counted the number of pages of writing completed in mathematics and English FAL exercise books of the best learner in each class, as nominated by the teacher. This was taken as the best case scenario for writing undertaken by members of the class. The number of pages was then converted to a percentage of the norm for the school. Thus, if the NEEDU visit to the school occurred after 10 days of schooling then the norm for a school would be eight, since they are expected to write one page a day on four days out of five. If learners had completed eight pages, then the percentage of the norm would be 100%. If they had written fewer than eight pages, then the percentage would be less than 100%, and vice versa. The results of this exercise are given in Table 30 and Table 31.

Table 30 shows that learners in monograde schools write considerably more frequently in English than do their multigrade peers. These differences notwithstanding, learners in both kinds of schools are writing less than half of what is expected of them, in terms of volume, if they are to become fluent writers.

**Table 30: Average pages of writing in English FAL exercise books**

| Class Arrangement | Grade | Percentage of norm |
|---|---|---|
| MONOGRADE | 4 | 38.48 |
| | 5 | 44.30 |
| | 6 | 54.19 |
| MULTIGRADE | 4 | 31.75 |
| | 5 | 37.13 |
| | 6 | 38.88 |

In mathematics, monograde learners also write very much more than multigrade learners. The second striking feature of these figures is that writing in mathematics is far more frequent and voluminous than it is in English.

**Table 31: Average pages of writing in mathematics exercise books**

| Class Arrangement | Grade | Percentage of norm |
|---|---|---|
| MONOGRADE | 4 | 68.07 |
| | 5 | 77.20 |
| | 6 | 82.62 |
| MULTIGRADE | 4 | 53.27 |
| | 5 | 64.55 |
| | 6 | 63.66 |

The micro-analysis tracked the number of pages written in learners' exercise books for both English and mathematics in subsamples of the NEEDU sample. Regarding writing in English it was found that in a sample of 20 schools the average number of pages written per week was 1.5. This figure is not directly comparable to those shown in Table 30, but accords with the conclusions of the macro-analysis that writing in English is done far less often than is expected by the curriculum.

One part of the micro-analysis of the mathematics exercise books tracked fluctuations in writing frequency over the course of the year in a subsample of 36 schools, representing four NEEDU schools chosen at random from the total number visited in each province in 2013. The average number of school days on which writing occurred, by month, is shown in Table 32.

**Table 32: Average no. of days on which writing occurred per month, 36 schools**

| | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct |
|---|---|---|---|---|---|---|---|---|---|---|
| Average | 7.4 | 9.4 | 4.0 | 7.2 | 7.7 | 0.4 | 2.6 | 4.3 | 1.0 | 2.3 |

These results should be read with caution, since they represent a small sample, and further investigation is required before generalisations can be drawn. The following analysis holds only for these 36 schools. The substantial drop in frequency in June, July and September requires explanation. June and September each lost one week to school holidays, while July lost two weeks. Yet, June and September show far less writing than July, indicating that other factors need to be brought into the mix to explain the very low levels of writing occurring in these two months.

Regarding June, this is the month in which schools administer mid-year examinations. Not only are examinations written during schools hours, which is to be expected, but the marking and recording by teachers also occur during school time. Even further inroads into teaching time are made between examinations, when learners are given time to 'swot'. As a result, as starkly illustrated in Table 32, learners do very little mathematics writing in June.

Something similar happens in the third quarter, when the ANA tests are written. During this time, it is not unusual for learners to spend up to two weeks being prepared for the tests. Learners spend time 'revising' in class, and normal teaching is disrupted for lessons that focus on typical ANA questions, drawn from exemplars circulated to schools. Mathematics and language teachers also provide mini-lessons teaching possible test items. After the tests have been written, groups of teachers sit in clusters, in corridors, marking tests during teaching time. Their final task is to record test results on schedules, which are then given to school secretaries, whose task it is to record, for the DBE, all the schools' test marks. These activities almost certainly contribute to the low quantities of writing seen in September. Whether the ANA experience, as a whole, is a help or hindrance in fulfilling the requirements of the curriculum remains an important research question.

Not only are the frequency and volume of writing generally far too low, but they are highly variable across the sample. Learners in some schools write, on average, one or two pages a day over the entire year, while the majority write a page twice a week or less frequently. These disparities reflect vastly different opportunities to learn offered to children in more or less effective schools.

### 6.4.2 Quality of writing in exercise books

#### English FAL

The macro-analysis of writing quality was based on a set of norms derived from CAPS and shown in Table 33.

**Table 33: Norms for extended writing in the Intermediate Phase**

| Type of Writing | GRADE 4 | GRADE 5 | GRADE 6 |
|---|---|---|---|
| Exercises containing:<br>Written expressive, descriptive, informational, or transactional text, e.g. recounts, stories, reports, letters | At least 50 words<br>1-2 paragraphs | At least 100 words<br>2-4 paragraphs | At least 150 words<br>3-5 paragraphs |
| **Norm** | **1 per week** | **1-2 per week** | **2 per week** |

**Source**: Derived from CAPS

In the macro-analysis of writing quality, for each school visited, the quantity of each type of extended writing shown in Table 33 was recorded for one learner in each of Grades 4-6. The results for Grade 5 are shown in Figure 5. Monograde schools are reflected in the months February to June, while the writing data for multigrade schools is shown from June to November. The respective bars show the total number of pages of extended writing seen in the books for the year up to that point. For example, the first set of bars for June shows that the average for monograde schools visited in that month reflected two exercises of extended writing of 50 words each had been completed, together with 1.75 exercises of 100 words each.

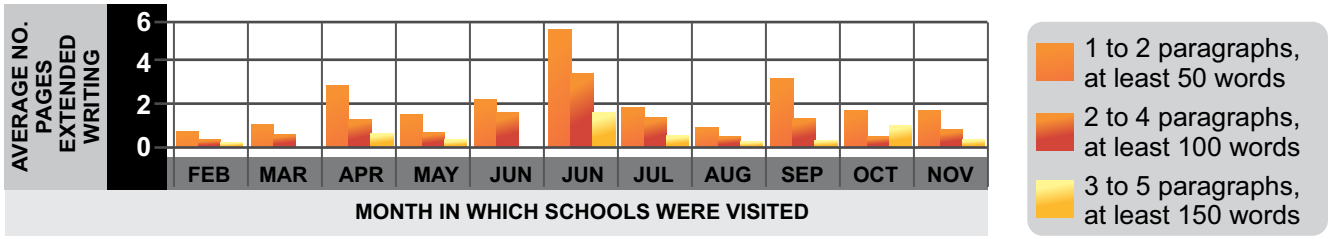


**Figure 5: Number of pieces of extended writing completed**

The most striking feature of Figure 5 is that the graph shows no progression of increasing numbers of exercises of extended writing over the year. Thus, the schools visited in September recorded virtually the same quantities of extended writing as those visited in April. Overall, very few exercises of extended writing of any kind are undertaken in most schools.

The micro-analysis of the English FAL exercise books concluded that in all of the schools across the provinces, considerably less grammar is being taught than required by CAPS, but that grammar tasks dominated the learner work submitted. Perhaps surprisingly, in schools where reading comprehension is known to be poor, the micro-analysis reported that in the 20-school subsample, some 79.6% of comprehension exercises specified by CAPS were in fact completed. However, it was noted that the content of comprehension tests did not relate to the other language work being done in the same time frame. This means that the comprehension exercises were unrelated to any grammar or writing exercises. Clearly, the text-based nature of the CAPS curriculum, which serves as an integrating principle across all language areas, was not being followed by the teachers. Possibly the teachers felt that the approach was too complex for FAL learners and they consciously chose another approach, but it is equally possible that the teachers either did not know about the approach stipulated or they did not understand what it meant pedagogically. Thus they resorted to teaching in the manner more familiar to them.

Overall, however, only 23.7% of the set of writing activities prescribed by CAPS was completed in a subsample of 36 schools studied in detail. In five schools no extended writing was done at all and in another five schools only one or two pieces of writing were in evidence. Even when creative and practical writing did appear, researchers' field notes reflected that the following characterised the written requirements:

- No evidence of process writing;
- No frames provided to scaffold genre-based writing for learners;
- No mind maps or rubrics were seen to assist with planning or assessment;
- Very few of the CAPS text types were in evidence; and
- The majority of writing pieces were not critically marked, with only a teacher's signature indicating that the work had been done.

In an even more detailed comparison between two schools of the writing of personal accounts, a common literacy form in schools, the micro-analysis concluded that:

- The tasks, while level-appropriate, elicited only basic responses.
- Regardless of whether the writing was marked or not, no corrections were done.
- Both schools taught the form in the wrong term as stipulated by CAPS. This is an important detail to note, given that the genre is an integrating principle across all language areas.

Not finding the genre at the appropriate time suggests that teachers randomly select genres that are familiar to them.

- In summary, the personal account tasks produced by the learners were very simple. They were not related to other language skills and thus functioned as separate, unrelated activities. In most cases the marks were unrealistically high.

### Mathematics

There was evidence, in several of the schools in the 36-school subsample mentioned above, of the teacher having a structured plan that followed the curriculum for each term as set out in CAPS. Conversely, it was noticeable that the mathematics teachers in several of the remaining schools assessed appeared to have no structure in their daily planning, which led to topics being taught in a haphazard and random fashion.

Evidence of learner writing in the areas of measurement and transformation (transformations, area, perimeter and volume), was not found in any of the 36 books under close review, with only seven schools including symmetry in the exercise books. On the other hand, evidence was found of learner work on percentages, decimal fractions and money, which technically are not part of the Grade 5 CAPS curriculum but were part of the previous curriculum for Grade 5. There was also a marked lack of extension in the level of difficulty of the work being done by the learners.

Many areas of work completed, as well as corrections of work done by the learners, were not marked at all or were merely ticked and signed as having been seen by the teacher, with no comment regarding the standard of the learners' work being made. Furthermore, there was little indication of the HOD, principal or an official from the PDE regularly moderating the learners' books and indicating that the work being taught in the classroom was of a satisfactory standard.

## 6.4.3 Use of DBE workbooks

A macro-analysis of the DBE workbooks in English FAL and mathematics was undertaken on one book requested from the best learner in one class in each of Grades 4-6. This analysis involved counting the number of pages on which work could be seen to have been done. This count was divided by the number of days of schooling at the time of the visit, to give the number of pages completed per school day. Across the whole NEEDU sample, in a large majority of schools (Table 34) learners completed an average of less than one page on every day of teaching. In this regard, there is little to distinguish multi- and monograde schools.

**Table 34: Percentage of sample completing less than one page in DBE workbooks per day, Grades 4-6**

| | Percentage of sample | |
|---|---|---|
| | MATHS DBE BOOKS | LANGUAGE DBE BOOKS |
| MONOGRADE | 81 | 94 |
| MULTIGRADE | 81 | 93 |

Figure 6 and Figure 7 show the concentration of Grade 5 learners who complete less than one page in their DBE mathematics workbooks and English FAL workbooks respectively. It is again striking to see how much more writing is done in mathematics than in language.

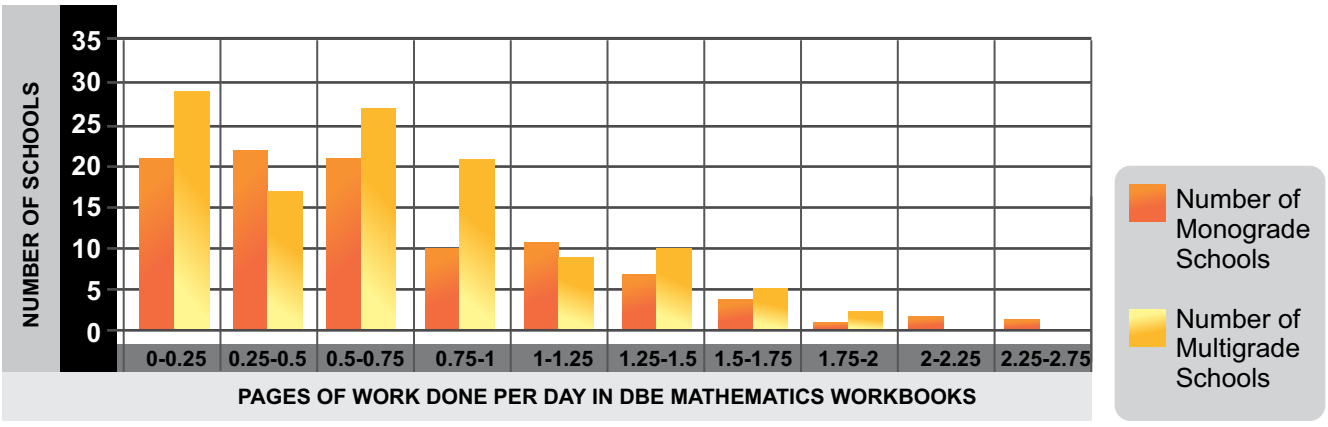


**Figure 6: Use of DBE workbooks, Grade 5 mathematics**

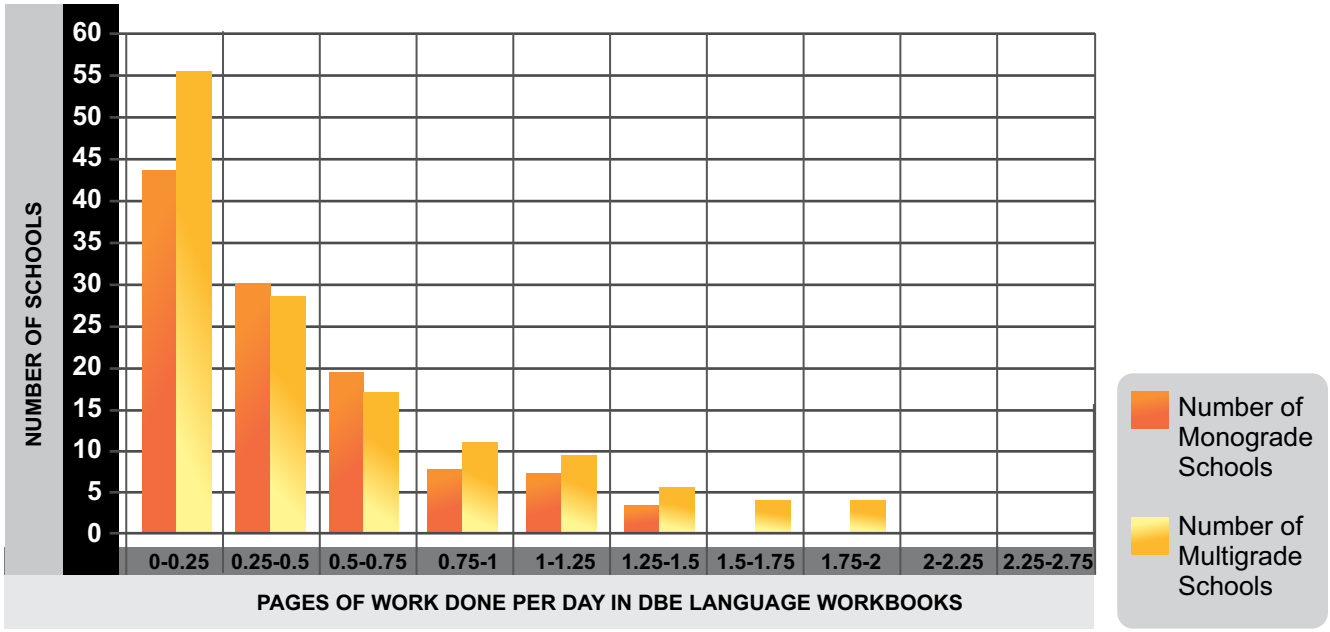


**Figure 7: Use of DBE workbooks, Grade 5 English FAL**

The micro-analysis of the mathematics workbooks examined the same 13 pages photocopied from 75 schools and recorded the patterns of learner responses to these items. Details are provided in Appendix 5. An even finer-grained analysis was done of how learners performed on tasks requiring the use of algorithms for the operations of addition, subtraction and multiplication. To take just one example, Box 8 shows performance in a subsample of 22 learners attempting two approaches to adding large numbers. The recommendation arising from this analysis – that teachers stick to one algorithm per operation and teach it with understanding and fluency – seems sensible, given the fact that almost all learners succeeded in using the standard 'column method' shown in Box 8 (Example 2), but ubiquitously failed to grasp the decomposition method (Example 1).

## box 8 Performance on two algorithms for addition, DBE workbook

Item 4e on p 12 commences by referring to examples of two algorithms for undertaking the addition of large numbers:

| **Example 1:** | **Example 2:** |
|---|---|
| 5 637 + 2 358<br>= 5 000 + 2 000 + 600 + 300 + 30 + 50 + 7 + 8<br>= 7 000 + 900 + 80 + 15<br>= 7 000 + 900 + 80 + 10 + 5<br>= 7 000 + 900 + 90 + 5<br>= 7 995 | 5 6 3 7<br>+ 2 3 5 8<br>1 5 (7 + 8)<br>8 0 (30 + 50)<br>9 0 0 (600 + 300)<br>+ 7 0 0 0 (5 000 + 2 000)<br>7 9 9 5 |
| Example 1 may be characterised as a horizontal algorithm using decomposition to break up the numbers before adding. Example 2 is the familiar 'column method', with some explanation on the side.<br><br>**The instruction for this item was:** Use both methods above to calculate the following: 4256 + 2487.<br><br>**Responses:** Horizontal decomposition method (Example 1): Attempted by 18 of 22 learners, of which none was successful.<br><br>**Column method (Example 2):** Attempted by 19 of 22 learners, of which 14 were successful. | |

The micro-analysis concluded that these results, taken together with evidence from the exercise books,

indicated that the elements of teaching these algorithms had not been integrated as a coherent concept in the learners' understanding. The report identified the approach advocated by CAPS of doing multiple versions of algorithms as part of the problem: exposing learners to too many methods may lead to confusion.

The report recommends that teachers begin with a single algorithm for each of the four operations, and spend a substantive period of time on all three levels of understanding: factual knowledge, conceptual grasp and operational efficiency. Every step needs to be stressed until learners grasp the meaning of the steps. An example of the approach advocated by the report is given in Appendix 6.

The report concludes that the DBE workbook sufficiently expresses the CAPS document's intention and contains the elements needed for concept formation. The workbooks have an almost element-by-element adherence or alignment to the prescribed CAPS content and therefore have the potential to reach the curriculum aims. It is recommended that more comprehensive use be made of the workbooks.
Most importantly, opportunities should be created that will enable teachers to undertake regular in-service training, which will not only develop and improve their knowledge of their subject and allow them to upgrade their qualifications, but will also foster their professional identity.

The micro-analysis of work done in the DBE English FAL workbooks looked at the 11 consecutive pages photocopied from the book of one Grade 5 child at each school visited. These pages contained four different extended writing tasks, two comprehension exercises, five exercises rehearsing a variety of grammatical responses, and one puzzle.

Learner responses to the grammar exercises, which were invariably grade-appropriate, were generally at an inappropriately simple level. Where learners did respond to the writing activities, only 25% of their responses were appropriate, with the majority being very simplistic. This is a similar finding to that in the learner exercise books, where the writing produced was generally of a very simple nature.

Regarding the teaching of English FAL in the IP, the report stated that there was not nearly enough general writing in learner exercise books. There seems to be lack of belief in teachers that their learners are capable of putting their own thoughts and experiences down in writing.

It is recommended that guidelines be developed mandating the average number of written pages in learner books over a given time period. These guidelines could be developed by school-based curriculum managers who should also be involved in monitoring learner exercise books. It is recommended that districts focus on the implementation of learner writing as they monitor and support schools and teachers.

At present most teachers teach grammar in a decontextualized manner. In other words, they do not link the grammar to the other language components, particularly to writing. Without exception, the creative/practical writing presented in learner workbooks was product-driven. This means that there was no evidence of writing that was scaffolded, edited or reworked in any way.

To a large extent the language responses in both learner exercise books and in DBE workbooks were simplistic in nature. There was little evidence of higher-order thinking that could stimulate any form of discussion or lead to more than direct recall responses.

The report recommends that the DBE workbooks be extended to include more challenging activities, and that that teachers use high quality textbooks for learner activities and do not develop their own activities.

# 7 The Limits Of Instructional Leadership

## 7.1 Form and substance

Schooling in South Africa, as in most countries, assumes a nested structure, with many levels of organisation directed to supplying, supporting and tracking the efforts of teachers and learners. In South Africa, the Constitution establishes the child as the centre of this, the largest collective enterprise of most societies. Basic education is one of the fundamental rights on which the South African legal system is built. When adjudicating competing interests in the domain of schooling, therefore, the right of the child to the best education possible must be the arbitrating criterion.

Instructional leadership is the set of levers at the disposal of a hierarchy of actors, from school-level HODs to the national DG, all acting in concert to assist teachers and learners. Section 5 describes the current state of a number of the systems designed to facilitate learning engagements in classrooms.

A feature of this landscape is that in large parts of the system and with respect to a number of instructional leadership processes, both systems managers and teachers are going through the motions, with little impact on the objects of their attention. Take the example of learner writing: NEEDU investigations reveal that instructional leaders in districts, schools and classrooms agree that this activity is monitored to the satisfaction of all concerned, the results recorded and stored for future reference. However, when the actual writing done by learners in their exercise books is examined it is found to be widely different from the kinds of activities and performance levels expected by the curriculum. Clearly, the systems managers who 'monitor' writing in this way either do not understand the curriculum or are not looking at learners' work with any degree of attention. They are assuming the forms of monitoring without engaging with the substance of the learning submissions they see.

Table 35 shows that this phenomenon occurs with respect to a number of instructional leadership functions in schools visited by NEEDU in 2013. It is becoming increasingly known among educators, for example, that assessment data, and the ANA scores in particular, have the potential to provide an important source of information about teaching and learning. More than a third of schools in the sample (37% in both mono- and multigrade schools) 'go through the motions' regarding the ANA exercise. They claim to analyse the results, but many cannot produce a valid set of test scores and apparently would not know how to use it if they had it. Only 5% of monograde schools and 3% of multigrade schools visited were able to demonstrate that they had undertaken an effective item analysis of their ANA scores, and used the analysis to plan their teaching programme.

**Table 35: Four instructional leadership factors**

| Subsample | Strength of Practice | Percentage of sample | | | |
|---|---|---|---|---|---|
| | | Division of labour* | Planning | Monitor teaching | Use assessment data |
| MONOGRADE | moderate | 66 | 81 | 50 | 37 |
| | none | 15 | 11 | 45 | 58 |
| | strong | 20 | 8 | 5 | 5 |
| MULTIGRADE | moderate | 26 | 53 | 28 | 37 |
| | none | 62 | 42 | 70 | 59 |
| | strong | 12 | 6 | 2 | 3 |

* Division of labour refers to the extent that instructional leadership functions are distributed among members of the SMT

Activity does not necessarily signify progress: there is a great deal of instructional leadership activity throughout the system, but much of it is undertaken at too superficial a level to make any impact on the quality of teaching and learning. The ineffective state of instructional leadership activities detailed in section 5 is quite compatible with the poor learning outcomes described in section 6. There is a need to increase traction between leadership practices and classroom activities, in order to scaffold learners to more sophisticated levels of reading fluency, comprehension and expression. If going through the motions is the first step towards effective instructional leadership, then engaging with the substance of the activities is the next. The challenge at present is to facilitate such substantive engagement using key leadership levers. This task should be pursued on two fronts.

The first is the question as to which levers to target. Which are likely to have most traction in the classroom? In the NEEDU 2012 report we advocated that monitoring activities focus on the

*outcomes of learning* rather than spending valuable time on gathering 'evidence' – and compelling teachers to spend hours preparing it – on practices that may or may not have much effect in the classroom. An example of this is the 'continuous assessment' processes, which used to generate shelves full of files and occupy teachers for weeks on end, but which the NCS Review (Department of Basic Education, 2009) recommended be significantly downscaled. The school improvement plans seen by NEEDU evaluators in almost every school visited provide a second obvious example of time spent on an activity that, in the large majority of cases, is done in such a perfunctory manner that it can have no useful purpose.

A third example of the inefficient use of time is described in the following comment from the acting head of one of the provincial education departments:

> *Another problem is the way things are done [in the department]. I move from one meeting to the next, I write endless reports, but I never get time to reflect. I present the same progress reports to three different bodies: spend endless time focusing on one thing. The Programme of Action in the provincial office often just reduces to a Programme of Meetings.*

The two outcomes closest to the learning process, indeed, which constitute the very act of learning, are reading and writing. In most South African primary schools reading is hardly ever assessed by teachers or their leaders, while writing is closely followed but in the form rather than the substance. These are the indicators most likely to benefit from close and continuous attention, through monitoring and support by instructional leaders, provided they have the capacity to diagnose obstacles to learning and provide productive advice.

This brings us to the second challenge to instructional leadership: how to promote *substantive engagement with the curriculum* on the part of educators at all levels of the system. This is essentially a capacity problem: many teachers and their instructional leaders are themselves not adept in the subjects they teach, nor in the learning processes demanded by the curriculum. This has long been recognised, but continuous attention to the question of in-service training has yielded disappointing systemic effects over the last three decades.

The way to start engaging more deeply with the curriculum is to pay attention to what learners do in class. In 2013 NEEDU evaluators observed lessons in 114 multigrade classes in rural schools across the nine provinces (section 6.1). While this is hardly a representative sample, it is large enough to reflect practices in many typical schools, and the results accord well with a number of similar sets of observations in South African classrooms (see, for example, Hoadley, 2010, for an overview). No individual reading by learners was seen in 83% of classes observed by NEEDU, no independent writing in 90%, and in only 5% did learners ask questions. Not only is this paucity of learning activity stunting their learning, but in most of these classes, learners are being socialised to be passive recipients, not inquisitive seekers of knowledge. In Mamdani's terms, they are being schooled to be subjects, more suited to life in a feudal world, rather than self-sufficient citizens (Mamdani, 1996) who can make their own way on the information highway. The challenge is to speed up the key learning processes in class, to demand more work in the form of speaking, reading and writing.

## 7.2 A worldwide problem

While South African schooling may exhibit a particularly inefficient manifestation of a particular organisational form, there is much evidence that many national systems assume the same form, distinguished mainly by greater or lesser degrees of traction in 'going through the motions' of instructional leadership. For Mehta (2013) the problem lies in the organisation of schooling around a logic of managerial control, where standardisation is aspired to, through the creation of elaborate rules and procedures; such logic is, according to Mehta, appropriate for routine work (such as delivering books) but not for the far more sophisticated task of stimulating learning. In managerial systems, a few managers at the top control the curriculum, which is implemented by interchangeable workers at the bottom. Under these circumstances, the natural response of teachers is to organise along the industrial union model, where the focus is on advocating for increased pay, but declining responsibility for school outcomes or governance. This, in turn, limits the degree of control teachers have over the quality of their work. Professional work, on the other hand, is characterised by deep levels of knowledge and expertise, professionally shared standards of appropriate practice and the use of judgement and discretion in applying the professional knowledge base to particular situations (Mehta, 2013, p. 468).

One has to ask which is the chicken and which the egg in this situation. Are teachers subjected to bureaucratic strictures because they exhibit low levels of expertise, or do they abdicate responsibility because they are treated like units of labour? For Mehta the solution to this stalemate lies in forging a new relationship between government, the unions and the universities, where the secret to redirecting any school system onto a professional trajectory lies with faculties of education. Mehta describes how many university academics pursue activities that further their own careers, rather than prioritising the development of teachers who are

knowledgeable about their subjects, self-motivated and creative in the classroom. This is not to say that teacher educators do not feel deeply about these issues and make no effort to nurture aspirant teachers as best they can. However, the incentive systems in faculties of education are not directed towards closing the theory/practice gap.

In the strong professions such as engineering and medicine these two goals coincide to a large extent, where academic research opens new opportunities for elaborating the field of professional practice. In the occupational field of teaching, research and practice are distinct and often divergent.

The starting point for moving towards a professional model of organising schooling would be a codified, shared knowledge base. Hiebert, Gallimore and Stigler (2002), for example, want to codify knowledge for teaching:

> *… we recognize the value of teachers' craft knowledge. We now ask whether it is possible to build this personal craft knowledge into a trustworthy knowledge base that can be accessed and shared widely in the profession … we propose that professional knowledge must be public, it must be represented in a form that enables it to be accumulated and shared with other members of the profession, and it must be continually verified and confirmed.*
>
> Hiebert et al., 2002, p. 3-4

Mehta (2013) asserts that, in the absence of a reliable knowledge base, teaching has adopted an ethos of 'defensive professionalism' that emphasises individual autonomy.

While professionals in more mature fields do exercise individual judgement and discretion, they do so in the context of applying a shared knowledge base to particular situations. Education, in contrast, has evolved around an 'all-teachers-need-to-invent-good-practice-for-themselves' ethos (Mehta, 2013, p. 477).

For Elmore (2008), what he calls the politics of accountability tend to lead to an underinvestment in knowledge and skill, and an overinvestment in testing and regulatory control. In his view, most teachers are working at the limit of their existing knowledge and skill, and giving them information about the effects of their practice, other things being equal, does not improve their practice.

Mehta echoes this view when he says that schooling in the US is overinvested in outcome accountability, but has not built the needed human capital, knowledge or organisational processes that would achieve these goals (466). Townsend et al. (2013) emphasise the point by describing the changes in NAEP[15] scores during the time of the No Child Left Behind (NCLB) programme as 'meagre', at best (Townsend et al., 2013, p. 15).

For Taylor (2014) the place to start in improving the whole ensemble of professional behaviour lies in strengthening the *subject identities* of beginning teachers. While the role of the state is important in providing space for teachers to exercise expert judgement, advancing the status of the profession and the quality of practice are dependent on the development of a robust knowledge base that can provide an increasingly reliable guide to practice. This can only arise from within the field itself, pointing firmly to the role of the universities in placing teaching on a more professional footing.

However, as Mehta (2013) points out, the content of initial teacher education is only part of the solution. He urges us to follow the lead of countries such as Singapore, Finland, Korea, and Canada where school systems are organised in a similar way to the stronger professions, including:

- Recruiting teacher trainees from the top third of their college cohort
- Giving them extensive and highly practical training
- Supporting schools with strong welfare states
- Depending on internal professional accountability rather than on external, bureaucratic accountability.

South Africa certainly has elements of the third of these bullets in place, through the extensive rollout of the NSNP, the social grant system and transport for learners living far from school. The first bullet has received significant impetus through the Funza Lushaka bursary scheme, with the quality and numbers of trainee teachers rising sharply since its inception.

However, there are serious questions about the second bullet, where all indications are that the education offered to trainee teachers is highly variable.

The last of these elements – the animation of schooling by means of professional accountability rather than bureaucratic edict – depends heavily on achieving the high-quality professional education envisaged in the second point.

**15.** National Assessment of Educational Progress, the nationally representative systemic tests in mathematics, reading and science in Grades 4 and 8, applied across the US every two years.

# Conclusion And Recommendations 8

The present NEEDU report should be read in conjunction with the 2012 report. In 2012 the focus was on the FP as manifest in urban schools across the socio-economic spectrum, while in 2013 the priority turned to the IP in rural schools, which are overwhelmingly set in the poorest, most remote areas of the country. The national ANA scores tell us that learning in the rural schools visited by NEEDU in 2013 lags behind that in the urban areas. NEEDU data from 2013 confirms the poor state of many buildings in rural schools, with an urgent need to address the provision of sanitation. There are trends in all provinces to rationalise very small schools, in the interests of better quality and greater economies of scale.

Regarding the recommendations of the MCRE in 2005, very significant progress has been made on those relating to poverty alleviation, with the rollout of an extensive social grant system, expansion of the NSNP, rural allowances for teachers, the improvement of school infrastructure, building school hostels, providing transport, and pro-poor school funding (non-personnel expenditure is skewed towards poor schools, while in over 60% of schools parents pay no fees) all contributing to supporting the poor and improving conditions in rural schools. Further gains can be made by rooting out corruption and increasing the efficiency of delivery.

On the curricular recommendations of the MCRE, these point to problems prevalent in schools situated in all areas of the country. Poor instruction in reading and numeracy in the first six grades results in low levels of reading fluency and comprehension and high innumeracy among learners. While these problems may be present to a greater degree in many rural schools, they are not qualitatively different from what happens in urban situations. In the discussion that follows, therefore, we do not give special consideration to rural contexts.

In the five years since it was elected into office in 2009, the administration in place in 2013 had begun to build an accountability system aimed at achieving Outcome 1 of Cabinet's 12 priorities: improving the quality of basic education. Table 9 shows how the four outputs targeted for Outcome 1 are being put into action across the country. Significant progress on each of the outputs has been made, particularly at high school level, where not only has the number of matriculants increased, but the numbers qualifying to enter Bachelor level study has grown and, perhaps most importantly, the throughput rate, while still low, is improving. Significant improvement in the TIMSS 2011 tests, while still very low by any comparative standard, was the very first sign of movement on any of the international tests in which South Africa participates.

Progress at primary school level has been slower, and the targets set for 2014 are unlikely to be met in mathematics, while there is no clear sign of improvement in language either. These difficulties reflect at least two important policy principles applying to a large and complex system such as schooling. First, gaining traction in classrooms in some 26 000 schools with respect to national targets is a long process. The most important change achieved against the *Action Plan* targets for primary schools to date is one of attitude: for example, institutional leaders now talk about their plans to improve ANA scores, whereas previously they would prioritise NSC results to the exclusion of primary schooling. There is growing awareness that the effects of focusing only on the top end of the system will reach a low ceiling if the efficiency of the primary school pipeline is not improved.

The second policy lesson accentuated by the slow rate of progress in improving learning outcomes in South African primary schools is that progress is prone to threats from a number of quarters. Three principal threats to achieving the targets of the *Action Plan* are depicted in Figure 8.

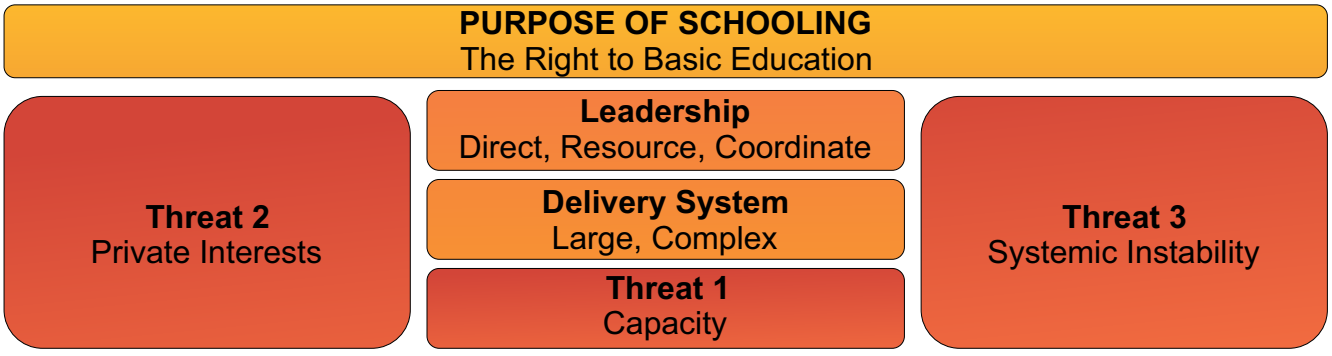


**Figure 8: Threats to achieving quality basic education for all**

The main factor undermining the improvement of learning outcomes is one of capacity. It is worth repeating that the degree of success in building the capable state envisaged by the NDP will be directly proportional to the capabilities of the servants of the state. For example, while teachers and their instructional leaders all the way up the line talk about using the ANA scores to improve instruction, the ability to do this is sorely lacking. Building capacity is a continuous process, starting with the selection of prospective teachers into undergraduate training and the provision of high-quality education in the universities, and ending with in-school professional development led by SMTs, with a gamut of in-service activity in between. Not much is known about the quality and consistency of delivery across this large terrain of diverse activity, and a survey of the field is an urgent priority.

A second major threat to government achieving its aims with respect to basic education is predatory behaviour on the part of private interest groups, who undermine due process through one or other combination of organisational muscle, intimidation and bribery. Often accompanying predatory behaviour is organisational instability, the third threat to institutional efficiency. This may occur in the form of frequent changes to policy or high staff turnover. Every job in the school system is one that requires application of specialised knowledge and proficiency in exercising established protocols of practice. Gaining mastery of any position requires a great deal of learning on the job, and it can take anything up to two or three years for the head of a PDE, for example, to understand the technical intricacies and political challenges of the post provisioning process.

From this perspective, frequent changes in the leadership of the ECDE have been a victory for those private interests preying on state resources to the detriment of effective schooling and fulfilling the constitutional rights of children.

Similarly, stability is required in the policy domain. Rolling out the CAPS curriculum across the system, for example, has taken the best part of five years, and at least another five years will be required to bed it down and fulfil the textbook demands imposed by any new curriculum. Whatever the imperfections of the curriculum may be, a period of stability is required to settle the system down to steady-state implementation. In the last 20 years three major changes to the school curriculum have occurred and the system has thus been in a state of policy adjustment for this entire period.

The ideas outlined above are not new and reflect debates currently in progress at all levels of the system. The recommendations that follow are therefore intended to strengthen trends already in motion and to anticipate threats to their implementation.

## 8.1 Post provisioning

The examples provided by Limpopo and the Eastern Cape show just how wrong the macro-planning process can go under conditions of political contestation and administrative incapacity. The long-term destructive effects of a malfunctioning post provisioning process are a strong motivation for adherence to the national norms set in 1998 to regulate the process, but currently maintained more in the breach than in the observance.

A large part of the problem is the undue influence on the process by organised interest groups. In the first instance the process must be removed from such influence. Consultation with interested and affected parties is an important principle of democracy that must be maintained, but capture of the decision-making process by one or other party inevitably compromises the quality of schooling. This in turn undermines the right to basic education, which is why the courts in both Limpopo and the Eastern Cape have repeatedly declared provincial and central government in violation of the Constitution. However, as we have seen in the case of the Eastern Cape (Box 3), rule by the courts is not only expensive and time-consuming, but also ineffective. Once the provincial finances tip beyond a certain point, teachers cannot be paid, children fed, schools renovated or books and furniture purchased because there simply is no money.

Schools that have learners should be resourced. Schools in which there is little demand must be closed or merged with others. Key to all these processes is rationalisation of teacher numbers, selection and promotion policies that make the best use of available skills, and continuous development to upgrade educator knowledge and skills. Application of these principles will involve very difficult decisions in a number of provinces, and must be executed in both the spirit and letter of the Labour Relations Act and of Resolution 2 of 2003 of the ELRC. Nevertheless, consultation does not imply negotiation, and the first priority of government is not to seek consensus, however desirable that is, but to adjudicate competing interests, using criteria derived from the constitution. In response to concerns about what it terms the inefficiency and ineffectiveness of current processes, the DBE has made a number of proposals aimed at improving recruitment and deployment of educators, recommending disciplinary action against officials who do not comply with policy (Department of Basic Education, 2013h).

At the best of times, keeping a PDE functioning optimally requires meticulous attention to staff deployment over many years. Once systems break down they are difficult to restore, and the need to invoke section 100 of the Constitution must be seen as a very last resort. The MBE has an armoury of mechanisms – notably section 8 of the National Education Policy Act (see section4 above)

– to facilitate good governance and efficient management long before a province collapses in the way that Limpopo and Eastern Cape have over the last three years.

### Recommendation 1: Post provisioning norms and standards

**1A – The MBE** should ensure that the following post-provisioning norms are articulated unambiguously in the relevant policy statements:

- Personnel to non-personnel ratio of 80:20
- Educator to support staff ratio of 85:15
- Procedures for constructing an affordable post establishment for each province, beginning with the available budget
- Protocols for rationalising schools

These norms should be achieved by all provinces within five years

### Recommendation 2: Education Management Information System

The DBE has been working towards the use of SA-SAMS throughout the system, but the process is slow and progress intermittent. Many of the processes are already in place, and the following proposals are offered in the interest of putting the entire system of data collection, management and use on a more consistent footing. A large part of the problem in collecting reliable data is lack of competent personnel at all levels, which in turn is a result of poor post provisioning and HR practices. This does not necessarily involve hiring additional administrative staff – where the norms listed in Recommendation 1 are followed, people are in place – but it does mean ensuring that incumbents of these positions are suitably skilled and equipped.

**2A – The MBE** should establish policy for the collection, analysis, communication and storage of information. This will include:

- Norms and standards for the provision of hardware, software, programmes and competent information technology (IT) personnel in the DBE and every school, district and provincial office.
- The development of a programme that provides an integrated and comprehensive set of business practices to plan and monitor the acquisition and deployment of teachers, books and stationery, school maintenance, school planning, assessment, monitoring and teacher professional development.
- Training in the use of the business systems for personnel at school, district, province and national levels. Training programmes could be offered free of charge over the internet for prospective EMIS practitioners. This would facilitate recruitment, attracting motivated and IT-smart technicians who have mastered the course on their own initiative.

**2B – Provincial MECs, HODs and district managers** should ensure that the human resources, hardware and systems for data management are installed in schools, linked to district and provincial offices, and adequately maintained, and that staff are trained to deliver the data.

**2C – School principals** should ensure that data management protocols are followed in their schools. SMT members need to be trained in managing these procedures, and competence in data management must be a criterion for appointing school leaders.

### Recommendation 3: Applying post provisioning norms and standards

**3A – The MBE, provincial MECs and HODs** should set target dates for achieving the norms and standards with respect to post provisioning and information management, and report annual progress towards achieving these goals. Early warning systems should trigger appropriate action by the DBE to assist provinces where necessary. Appropriate national capacity should be retained for this purpose.

**3B – District managers, CMs and principals** should be trained in the application of Collective Agreement No 2 of 2003.

## 8.2 Time management

Poor time management practices are common in low-performing schools and seem to be more common in the rural schools visited in 2013 than was the case in the urban sample of 2012. Problems include lack of punctuality, high levels of absenteeism among teachers and learners, and

occasional to frequent school closures for matters such as union meetings, memorial services and training. One feature that distinguishes well-functioning schools is that time wasted on these activities is kept to a minimum. However, very considerable quantities of time are lost in all schools, well-functioning or not, owing to practices that have seeped into the fabric of South African school culture.

These include at least three weeks spent on preparation, administration and marking the June examination papers; at least four weeks on end-of-year examinations; and now the ANA has resulted in a suspension of teaching for two or three weeks, in addition.

CMs must constantly be on the lookout for ways of improving the use of time in schools. The optimal use of time not only makes more learning possible, but becoming aware of time and of productivity is an important disciplinary mechanism for learning and a central element in inculcating productive habits in young citizens.

### Recommendation 4: Optimising learning time

**4A – Circuit managers and principals.** Institutional functionality is the responsibility in the first instance of school principals and ultimately of CMs. These officials should be held accountable by their respective superiors for optimising learning time, according to procedures laid down in NEPA (see section 4). This includes the management of teacher leave. CMs should monitor time management practices in schools through unannounced visits. Where there are problems, CMs must work with principals to exert firm leadership and sound timekeeping practices throughout the school. This may require on-site mentoring and in extreme cases, transfer or retrenchment of an underperforming principal.

## 8.3 Reading and writing

The schools that were tested in the NEEDU reading comprehension exercise obtained an average of 4.14 marks out of 20, representing a pass rate of 20.7%. This result was further amplified during the ORF test when learners obtained an average of 1.34 (ORF1) and 1.54 (ORF2) out of 5 on the respective comprehension tests and read at average speeds of 46.64 (ORF1) and 79.09 (ORF2) WCPM. At this age they should be reading at 90-100 WCPM. Both scores also varied widely both within and across schools and SAs need to work with the SMTs to achieve greater consistency of reading instruction.

The country urgently needs a programme that will enable teachers to teach literacy more effectively. The INLNS (see section 5.9.1) issued by the DBE, is being received well by provinces and provides a very helpful outline of curriculum requirements and reading activities for teachers and school managers, by grade level. There is a prominent view, exemplified best by the *Second McKinsey Report* (Mourshead et al., 2010), which holds that while documents such as the DBE's INLNS may be an essential supplement to the curriculum, in low-functioning systems a more closely scripted set of daily activities is required. Such scripted programmes put together the activities to be followed and resources to be used by teachers in a carefully structured, lesson-by-lesson sequence. South African examples of this approach include the SMRS, a programme of the DOE that showed considerable promise in a pilot study undertaken by the then DOE in three provinces in 2008/09 but was never used; the GPLMS, currently being evaluated in Gauteng and KwaZulu-Natal; the LitNum Intervention in the Western Cape; and the Lit/Num Strategy of the FSDE. The programmes of other provinces should also be evaluated. They consume significant resources and it is important to understand what the returns on this investment are.

### Recommendation 5: Identifying and rolling out a primary reading and writing programme

**5A – The MBE and DG.** The Minister should lead the search for a programme for assisting teachers to teach literacy effectively. The DBE must fast-track its plans to establish a Directorate of Primary Literacy with the specific tasks of coordinating the research and development of a literacy programme, and directing its take-up and implementation by provinces. A fund should be allocated for investigating, developing and driving an effective reading and writing programme, and the accompanying reading materials, for the country.

**5B – Provincial MECs and HODs.** At the same time, provinces should continue to test existing initiatives and experiment with models used elsewhere. These programmes must be rigorously evaluated so that the lessons are clearly spelt out. The country – both public and private sectors – cannot continue to support programmes that show no effects.

**5C – SAs, school principals, HODs and teachers.** Schools should focus greater attention on reading than they have been doing. This involves learners undertaking independent reading and writing activities every

day. This should not be confined to language classes, but should occur across the curriculum. In addition to a reading programme supported by appropriate materials, as described above, teachers would do well to take their learners systematically through the DBE workbooks, covering the required quantum of work daily.

**5D – Teachers, school HODs and district SAs.** Teachers and school-level HODs in the FP and IP should monitor learner reading and writing systematically. Learners throughout the school should be assessed regularly and the progress of weaker readers should be tracked at least quarterly. HODs may do this by getting each learner to read a story from an unfamiliar book, and to count how many words are read per minute. Comprehension should also be tested, and this aspect must constitute a component of every written test. The reading fluency norms shown in Table 36 give an indication of the kind of monitoring tool that could be used for these purposes. The DBE has also proposed a set of norms. District SAs should drive this process and ensure that it happens in schools.

**Table 36: Norms for reading in LOLT, Grades 4-6**

| Grade | Level of learner | Reading a story: Number of correct words per minute | | | |
|---|---|---|---|---|---|
| | | By the end of Term 2 | | By the end of Term 4 | |
| | | First Language Reader | Second Language Reader | First Language Reader | Second Language Reader |
| 4 | Top | 145 | 116 | 166 | 133 |
| | Middle | 94 | 75 | 112 | 90 |
| | Bottom | 45 | 36 | 61 | 49 |
| 5 | Top | 166 | 133 | 182 | 146 |
| | Middle | 110 | 88 | 127 | 102 |
| | Bottom | 61 | 49 | 74 | 59 |
| 6 | Top | 177 | 142 | 195 | 156 |
| | Middle | 127 | 102 | 140 | 112 |
| | Bottom | 68 | 54 | 82 | 66 |

Note: Reading norms for South African languages have not been established. The norms shown above were derived for American children. Although adjustments have been made to cater for application to second language speakers, the norms must be viewed with caution until a full set of South African measures has been developed.

Writing should also be monitored, following CAPS requirements, as set out in Table 37 and Table 38.

**Table 37: Norms for language writing quantity in the Intermediate Phase**

| Type of Writing | Grade 4 | Grade 5 | Grade 6 |
|---|---|---|---|
| Exercises containing:<br>Examples of writing (dictation, single sentences, paragraphs, stories | 4 times per week | 4 times per week | 4 times per week |

**Table 38: Norms for writing quality in the Intermediate Phase**

| Type of Writing | GRADE 4 | GRADE 5 | GRADE 6 |
|---|---|---|---|
| Exercises containing:<br>Written creative and informational text, e. g. recounts, stories, reports | At least 50 words<br>1 to 2 paragraphs | At least 100 words<br>2-4 paragraphs | At least 150 words<br>3-5 paragraphs |
| **Norm** | **1 per week** | **1-2 per week** | **2 per week** |

Note: For details refer to Table 3. 2. 3 (Length of Text for First Additional Language—to be produced by learners) in CAPS English First Additional Language (IP Grades 4-6), page 30, or Table 3. 2. 3 (Length of Text for Home Language—to be produced by learners) in CAPS English Home Language (IP Grades 4-6), page 32.

## 8.4 Numeracy and mathematics

The ANA scores detail the dismal performance across the country in mathematics. There is a tendency to view the Grade 3 and 6 results as disturbing, but only mildly so compared to the Grade 9 scores. This is a complacent view: the very poor Grade 9 scores should set alarm bells ringing concerning the teaching of mathematics throughout the primary school. The micro-analysis of

learner writing in mathematics undertaken by NEEDU (section 6.4) indicates that, even where learners 'get the right answer' they do not necessarily understand how they got there. This lack of conceptual understanding catches up with them in Grade 9.

### Recommendation 6: Identifying and rolling out a primary numeracy and mathematics programme

**6A – The MBE and DG.** The Minister should lead the search for a programme to assist teachers to teach numeracy and mathematics effectively. The DBE should establish a Directorate of Primary Numeracy and Mathematics with the specific tasks of coordinating the research and development of suitable programmes, and directing their take-up and implementation by provinces. A fund should be allocated for investigating, developing and driving an effective basic mathematics programme for the country.

**6B – Provincial MECs and HODs.** At the same time, provinces should continue to test existing initiatives and utilise models used elsewhere. Programme evaluation is key to understanding the impact and cost-effectiveness of interventions aimed at improving the quality of teaching and learning in mathematics.

**6C – SAs, school principals, HODs and teachers.** Learners should undertake curriculum-appropriate mathematics activities every day, under teacher guidance. It is important to provide mathematics textbooks to all learners in the primary school. In addition to using these systematically, teachers would do well to take their learners systematically through the DBE workbooks, covering the recommended quantum of work daily.

**6D – School HODs and district SAs.** School-level HODs for the FP and IP should monitor learner progress in mathematics systematically.

Table 39 is a summary of CAPS requirements in one area of mathematics. HODs and SAs should elaborate this table, using the CAPS specifications, to monitor learner written work regularly.

**Table 39: Suggested norms for writing in mathematics for numbers operations and relationships**

| Operation | Grade 4 | Grade 5 | Grade 6 |
|---|---|---|---|
| **Addition** | Addition of whole numbers to at least four digits | Addition of whole numbers to at least five digits | Addition of whole numbers to at least six digits |
| **Subtraction** | Subtraction of whole numbers to at least four digits | Subtraction of whole numbers to at least five digits | Subtraction of whole numbers to at least six digits |
| **Multiplication** | Multiplication of at least whole two-digit numbers by two-digit numbers | Multiplication of at least whole three-digit numbers by two-digit numbers | Multiplication of at least whole four-digit numbers by three-digit numbers |
| **Division** | Division of at least whole three-digit numbers by one-digit numbers | Division of at least whole three-digit numbers by two-digit numbers | Division of at least whole four-digit numbers by three-digit numbers |
| **Problem-solving** | Solve problems involving whole numbers including:<br>financial contexts<br>measurement contexts<br>comparing two or more quantities of the same kind (ratio)<br>comparing two quantities of different kinds (ratio)<br>common fractions: including grouping and equal sharing with remainders | Solve problems involving whole numbers including:<br>financial contexts<br>measurement contexts<br>comparing two or more quantities of the same kind (ratio)<br>comparing two quantities of different kinds (ratio)<br>common fractions: grouping and equal sharing with remainders | Solve problems involving whole numbers including:<br>financial contexts<br>measurement contexts<br>comparing two or more quantities of the same kind (ratio)<br>comparing two quantities of different kinds (ratio)<br>grouping and equal sharing with remainders<br>contexts including decimal fractions |

Source: National Curriculum Statement (NCS) – CAPS, Mathematics Intermediate Phase Grades 4-6

## 8.5 Assessment

*Assessment for learning (formative)* completes any learning cycle and simultaneously commences a new cycle, as follows: assess, diagnose, identify learning problems, design and apply remedial activities, assess. This should not be seen as a process with clearly marked stages, but as a continuous set of cycles of longer and shorter duration, each of which may last for a few seconds or a whole year. Coordinating, quality assuring and analysing results are central instructional leadership tasks, and each member of the SMT should be involved. Analyses of test scores are an important basis for professional development of teachers, especially within the school itself.

A number of provinces are making a determined effort to utilise test data to plan and organise classroom activities, but there is still a considerable distance to travel before most teachers are able to undertake item analyses and use them for teaching and learning. These are high-skill processes that require continued advocacy and capacity-building among subject advisors and school HODs before they are likely to be used at the classroom level.

Regarding the *Assessment of learning (summative),* there will always be a temptation to use the ANA scores to hold schools accountable for their results. This is a dangerous path containing many pitfalls. In particular, raising the stakes on tests of this kind has been found in many countries, but particularly in the US where the NCLB programme has been studied most intensely since its inception in 2001, to have several negative effects. The greatest problem with the sort of accountability regime represented by NCLB is that, on its own, it does not work. Without increased capacitation, it does not lead to improved test scores (see section 7).

### Recommendation 7: Analysis and use of assessment data

**7A – MBE and DBE.** Systemic progress should be monitored by means of the verification ANA, and the universal ANA should be used only for diagnostic purposes. It is important for maintaining credibility that the verification ANA be commissioned to an outside agency in its entirety, and that the most rigorous psychometric principles be applied in ensuring comparability from one year to the next.

**7B – SAs and school HODs.** The province, district and circuit should work with HODs to increase the capacity of schools to undertake sensible item analyses of assessment exercises. SMT members should be directed and trained to moderate test and examination papers to ensure they are at the right standard specified by the curriculum. All test results (ANA, common tests set by the province or district, and SBA) should be used *at the school level* to identify teachers and learners who are having problems with particular topics, and to identify topics that are commonly found to be difficult. It is important to look at the results for each question in the test (item analysis), in order to understand how effectively teachers and learners are progressing on the topic in question.

## 8.6 Leadership and institutional continuity

A prerequisite for the system to improve performance through substantive instructional leadership practices is for educators in promotion posts to be more knowledgeable and pedagogically skilful than the teachers they are purporting to mentor. Furthermore, promoting people who clearly do not exhibit superior talent undermines confidence in the integrity of the system and weakens respect for authority and discipline.

NEEDU data generated over the last two years confirms the view that confident leadership, strong institutional governance and efficient management are key to establishing conditions conducive to learning. This report provides examples of innovative school principals (Box 1), decisive district heads (Box 5), and well-organised provincial leaders (Box 2, Box 4 and Box 7) inspiring teachers to extraordinary efforts under a variety of political, social and material conditions. These examples illustrate the importance to successful institutional reform of identifying and nurturing leadership. New policy developments emanating from the Ministry of Public Service and Administration indicate that government is moving towards the application of explicit criteria for selecting people in key positions. For example, the Ministry of Cooperative Governance and Traditional Affairs recently promulgated new regulations for appointing senior managers in municipal government, including a specification for the application of competence tests. Discussions are under way within the DBE on applying the same approach to HR management in the school system.

Finding the right leader is difficult enough, but keeping him or her in place, often against the wishes of powerful interest groups, is key to gaining reform traction. A comparison between the political support provided to Mr X (Box 5) in reorienting District Z, and the chronic instability of leadership in the Eastern Cape (Box 3) is instructive. Current attempts to solve the crisis in the Eastern Cape will stand or fall by the resolution of government, provincial and central, not to give in to pressure to

replace the new leadership as soon as hard decisions start being made. The management of schooling is a complex process that follows long-term cycles and continuity is as important as technical expertise in maintaining stability and building quality.

### Recommendation 8: Leadership

**8A – Developing systems for selecting leadership.** The DBE and the WCED should continue to develop and pilot competence tests for selecting SAs, principals and school-level HODs. Suitable regulations should be promulgated by the MBE, mandating their application once appropriate instruments have been proven effective. A starting point in assessing the curriculum knowledge of prospective HODs, for example, might be to require them to construct rubrics such as those shown in Table 37, Table 38 and Table 39, or to interpret the graphs depicted in Figure 2 to Figure 7. A good understanding of his or her subject and phase would be a prerequisite for any HOD. The DBE should continue to develop and pilot the subject knowledge and curriculum competence tests currently under construction.

These knowledge-focused indicators are more valid measures of educator capacity than many of the process indicators that currently dominate the IQMS instrument.

It is recommended that the negotiations currently under way to reform the system of educator appraisal (Education Labour Relations Council, 2014) take account of these considerations.

**8B – Recruitment and promotion.** Institutional leaders at national, provincial, district and school levels should use demonstrated expertise in the requirements of any job as the principal criterion for appointing and promoting staff.

## 8.7 Professional development

In the face of headlines that proclaim 'Teachers are clueless', the NEEDU 2013 report continues the argument made last year that while teachers carry a heavy responsibility for what their learners know and can do, and while there are many ill-disciplined teachers in the system who should be disciplined, the majority are doing the best they can and would dearly love to do better. This premise should be the starting point for systemic reform.

A second general point is that teacher appraisal systems such as the IQMS are unlikely to be used for development purposes while they are linked to salaries and promotion and measure process indicators whose links to learning quality are questionable.

Even more fundamental is that teacher appraisal can serve no purpose at all unless the appraiser has the capacity to distinguish good practice from bad. Professional development should be the goal of classroom observation by HODs and greater cooperation between peers.

Recommendations 1 to 8 have clear implications for the knowledge and skills required by educators at all levels of the system. If South Africa is to build a capable state it is essential that educators are selected, promoted and developed according to the highest levels of expertise relevant to their job functions.

These considerations should also guide decisions about which educators are in addition to requirements at schools in which LERs are below national norms.

Yet it is in the deepening of educator cognitive capacity that attempts at systemic reform meet their greatest challenge. This realisation brings into sharp focus the teacher training sector, regarding the suitability of current forms of in-service and pre-service teacher preparation.

In this respect, the future must lie in a more collegial approach among teacher educators, framed by a research-focused perspective that takes account of contextual conditions in designing interventions, assessing their effects, and adjusting programme designs accordingly.

### Recommendation 9: Professional educator development

**9A – In-school professional development.** School SMT members should structure and lead systematic learning opportunities for teachers, through regular discussions on matters of curriculum, pedagogy and assessment. Throughout the primary school these should be focused on the development of reading, discussion of difficult topic areas, and the exploration of different pedagogical techniques for particular topics, especially the teaching of reading, number concept and the four arithmetic operations. This work should be based on the ongoing analysis of learner responses to structured assessment activities.

**9B – INSET and development.** While short courses are necessary to introduce new curricula, in-service training has been singularly unsuccessful in changing classroom practices, not only in South Africa but across the world. All agents offering training and development should be required to adopt an impact-focused approach and be able to show the efficacy of their programmes. The current emphasis on reporting numbers in attendance and money spent should shift towards reporting on content coverage and skills gained by teachers through participation in programmes. SAs should prioritise working with school-level HODs, building their capacity to undertake in-school professional development.

**9C – Pre-service teacher training and development.** In the school sector the chain of HR development starts with the education of teachers. One possible reason for the ineffectiveness of INSET is that the gaps in teacher knowledge are too large to be bridged to any degree by short courses. From this perspective, ultimate accountability for the quality of schooling rests with the teacher education sector.

Teacher educators need to ensure that newly qualified teachers and educators completing post-graduate courses have the knowledge and skills required to reach very much higher levels of reading, writing, mathematics and institutional leadership than is currently the case with the majority of teachers in the system.

The promotion of a national debate on what this entails for curricula is a matter of urgency, and should be led by the Educator Deans Forum and involve the DHET, DBE, CHE and the SACE. Current efforts led by the DHET to research and seek consensus on effective means of initial and continuing teacher development should be intensified and placed within a long-term plan for the reform of teacher education. The CHE should institutionalise a system of periodic quality audits of all ITE and formal INSET programmes.

## 8.8 Accountability and the Ministry of Basic Education

In relation to a complex enterprise such as schooling, accountability is not a uni-dimensional term. Scrutinising it includes asking questions about who is responsible for what, to whom and according to which warrant? These questions should be asked with respect to each of the sets of tasks involved in carrying out the recommendations set out above. In the first instance, accountability for the amendment, adoption and execution of the recommendations lies with the MBE.

Much has been achieved in education over the last five years: an overall plan for raising school quality is linked to national priorities, targets have been set, resources distributed, metrics constructed, measurements taken and analytics produced. If a priority is to be set for the new administration to be elected into office in May 2014, it should be to complete the circle of accountability. The final link in the chain is to spell out and bring to bear the consequences of non-compliance. The trouble with policy that has no consequences is that it remains inert, as is the case with the 1998 *Norms and standards for school funding*.

However, in the context of concurrent powers and a division of authority between the national and provincial levels of government with respect to schooling, gaining compliance from provinces in respect of national policy is not easy. Matters are further complicated under conditions of political contestation within provinces. An example of this complexity is given by the involvement of the Ministry and the highest executive level of government in the appointment and dismissal of the second to last HOD in the ECDE. In such cases, it is too easy for a well-connected interested party to play one arm of government off against another, to its own advantage. Another key issue on which better coordination of purpose and resources between the various arms of government should be a priority is the question of salaries. These are set at the level of the public service through a process over which DBE and PDEs have little influence, yet they have to bear the financial consequences. Since the institution of the OSD in 2007, the annual rise in personnel costs well in excess of inflation has led to spiralling salary costs and placed an inexorable squeeze on non-personnel expenditure in all provinces. The long-delayed review of educator pay announced by the President in 2013[16] should pay close attention to this issue.

The most common way for a national body to move elements of a federal structure towards compliance is through a system of incentives and sanctions, which means tying it to budgets in some way. What is 'holding accountable' if not spelling out the consequences of non-compliance or poor compliance? This is a question for the larger polity. In the first instance, central government should act in concert and use all the political and legal influence at its disposal to gain consensus from the provinces, not only on the content of policy but also in the details of its implementation and consequences of non-compliance. In the final analysis, the provisions of section 8 of the NEPA to demand compliance, under the supervision of Parliament, should be applied to provinces that fail to comply with the national consensus.

16. Announced by President Zuma, 8 August 2013. See Justice Ngcobo to head Presidential Remuneration Commission, downloaded from: http://www.sanews.gov.za/south-africa/justice-ngcobo-head-presidential-remuneration-commission on 5 May 2014. See also Teachers' pay review underway again, 20 June 2013, downloaded from: http://www.iol.co.za/news/politics/teachers-pay-review-under-way-again-1.1534917#.U2dFd2YaLmQb on 5 May 2014.

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# 1 Appendix

## Provinces, districts and schools evaluated in 2013

| Prov | District | School | Mono/ Multigrade |
|---|---|---|---|
| Eastern Cape | Butterworth | Caley Junior Secondary, Khulile Senior Primary School, Mapasa Junior Secondary, *Ncapai Junior Secondary, Tiyo Soga Senior Primary School,* Zizamele Senior Primary School, Buru Junior Secondary School, Ngunduza Junior Secondary | Mono |
| | Cofimvaba | Mhlabeni Senior Primary School, Bazindlovu Junior Secondary, Cofimvaba Village Jr Secondary, Gungubele Junior Secondary, Hlatikulu Junior Secondary, Ncora Flats PJ School, Wodehouse Junior Secondary, Nobuzwe Senior Primary School | Mono |
| | Mthatha | Pingilili Junior Secondary School, Empa Junior Secondary School, Mkwezo Junior Secondary School, Qunu Junior Secondary School, Madonisi Junior Secondary School, Sigoyo Junior Secondary School, Xwili Junior Secondary School, Bambilanga Junior Secondary | Mono |
| | Mt Fletcher | Bethania Junior Secondary, Morulane Junior Secondary, Mt Fletcher Village Jr Seconday, Vuvu Junior Secondary, Farview Junior Secondary, Fletcherville Junior Secondary, Magedla Junior Secondary, St Thomas Junior Secondary | Mono |
| | Graaf Reinet | Bracefield UCC Primary School, Kokskraal Primary School, Witmos Primary School, Golden Valley Primary School, Lushof Stated Aided Primary School, Kommadagga Primary School, Reddingshoop Farm School, De Hoop Primary School | Multi |
| | Grahamstown | Carisle Bridge Primary School, Brighton Primary School, Fairview Primary School, Fort Brown Primary School, Glendowan Primary School, Riebeeck East Combined, Manley Flats Primary School, Wilson's Party Farm School | Multi |
| | Uitenhage | Bo Plaas Primary School, Klein Plaas Primary School, Klipdrift Primary School, GustavRachel Primary School, Uitvlucht Primary School School, Du Preez Primary School , Krommedom Primary School, Spitzbak Primary School | Multi |
| | Lady Frere | Tembeni Senior Primary School, Edendale Junior Secondary, Gqebenya junior Secondary, Platkop Junior Secondary, Zamakulunga Senior Primary School, Masikhule Senior Primary School | Multi |
| Free State | Motheo | Arbeidsgenot Primary School Farm, Tawana Primary School, Unicom Primary School, Mokwena Primary School, Seiphemo Primary School, Moipone Primary School, Refentse Primary School | Mono |
| | Fezile Dabi | Serfontein Primary School Farm, Jordaan Primary School Farm Sch, Makgetha Primary School Farm Sch, Nokanapedi Primary School Farm S, Helderwater Primary School Farm S, Dikaios Christian (ACE) PI/S, Kgaisanong Primary School Farm S, Ruby Primary School Farm School | Multi |
| Gauteng | Gauteng W | Unity Primary School, Laerskool Bekker, Kwaggafontein Primary School, Matla Combined School, Tarlton Primary School Farm, Maloneys Eye Primary School Farm, Mphe-Thuto Primary School | Mono |
| | Tshwane W | Dikgakologo Primary School, Itseng Primary School, Dikgakologo Primary School, Mahlwareng Primary School, Mlokotwa Dube Primary School, Philemon Montsho Primary School, Refalotse Primary School, Refilwe Primary School | Mono |
| | Gauteng N | Thereso Primary School, Uthukula Primary School | Multi |
| | Tshwane N | Onderstepoort Primary School, Tomarie Primary School | Multi |
| KwaZulu Natal | Amajuba | Blackbank Primary School, Embabane Primary School, Hlokomani Primary School, Iphunguphungu Primary School, and Lamasha Primary School, Sisizakele Primary School, Sizamokuhle Primary School, Inverness Primary School | Mono |
| | Ugu | Bangibizo Primary School, Ebomvini Primary School, Emthini Primary School, Etshenilikashoba Primary School, Mansfield Primary School, Mbeni Primary School, Munga Primary School, Shibase Primary School | Mono |
| | Empangeni | Kukhoba Combined School, Njikini Combined School, Simanjalo Primary School | Multi |
| | Uthukela | Boschberg Primary School, Endaka Primary School, Kwakali Primary School, Mjoli Primary School, Pepworth Primary School, Vukufunde Primary School, Vungatshe Aided Primary School, Zaaifontein Primary School | Multi |
| | Sisonke | Nhlamvana Primary School, Kwadladla Primary School, Valentine Primary School, Mbambalala Primary School, Mahafana Primary School, Fletcher Primary School, Mehlomane Primary School, Highflats intermediate | Multi |
| | Vryheid | Bernica Primary School, Dudusini Primary School, Endomuka Primary School, Intuthuko Primary School, Waterhoek Primary School, Ihlathi Primary School | Multi |
| Limpopo | Mopani | Matswidikanye Primary School, Motseketla Primary School, Mmakau Primary School, Maroboni Primary School, Thabeng Primary School, Khujwana Primary School, Pipa Primary School, W M Kgatla Primary School | Mono |
| | Riba Cross | *Madinoge Primary School, Mokgabudi Primary School, Riba Primary School, Kabishi Primary School, Makgalanoto Primary School, Bogwasha Primary School,* Hlakanang Primary School, *Thokwane Primary School* | Mono |
| | Sekhukhune | *Mashegoanyane Primary School,* Mpelegeng Primary School, Photo Primary School, *Jacob Sefako Primary School, Mamorake Primary School,* Rammupudu Primary School, Phaphamani Primary School, *Embhokodweni Primary School* | Mono |

| Prov | District | School | Mono/ Multigrade |
|---|---|---|---|
| Limpopo | Mopani (Tzaneen) | Allergraine Primary School, Rankagale Primary School, Kgopsane Primary School, Zamani Primary School, Leseding Primary School, HH Thiele Primary School, Mohlodumela Primary School, The Junction Farm School | Multi |
| | Lobowakgomo | Serokolosenya Primary School, Thoka Primary School, Rietkolk Primary School, Molepo Primary School, Mokgapaneng Primary School, Moupo Primary School, *Malekapane Primary School, Morore Primary School* | Multi |
| Mpumalanga | Nkangala | *Bhekimfundo Primary School, Ematjeni Primary School, Emthonjeni Primary School, Hlalisanani Primary School, Khayalethu Primary School, Khulufunde Primary School, Magaduzela Primary School, Masizakhe Primary School* | Mono |
| | Bohlabela | Kiwi Primary School, Spekbooom Primary School, Shaga Primary School, Enkeldoorn Primary School, Diphaswa Primary School, Thabakgolo Primary School, Ntsoelemolodi Primary School, Pugishe Primary School | Multi |
| N Cape | Pixley-Ka-Seme | Vaal-Oranje Primêre Skool, Douglas Gekombineerde Skool, Bongani Primary School, Ikageng Intermediêre Skool, Petrusville Primêre Skool, Visisani Primary School, Oranje Diamant Primêre Skool, Hopetown Gekombineerde | Mono |
| | Namaqua | Kheis MET Primêre, Klipfonten MET Primêre, Nourivier MET Primêre, Norap MET Primêre, Leliefontein Intermediate School, Soebatsfontein NGK Primêre, Marias Gedenk Primêre, Tweerivier Metodiste PS | Multi |
| North West | Dr Ruth Segomotsi Mompati | Colinda Primary School, Floradene Primary School, Kegakilwe Primary School, Maikao Primary School, Phaposane Primary School, Seitsang Primary School, Stellaland Primary School, Thuto-lesedi Primary School | Mono |
| | Dr Kenneth Kuanda | Letsatsi Primary School, Maheelo Combined, Konykonyang Primary School, Mmatlhapi Combined School, Dupperpos Primary School, Kgolaganyo Primary School, Thsegofatso Primary School | Multi |
| Western Cape | Cape Winelands | *Groenheuwel Primary School, Imboniselo Primary School, Langabuya Primary School, Mbekweni Primary School,* Klapmuts Primary School, *Orleansvale Primary School, Dalweide Primary School,* Dal josaphat Primary School | Mono |
| | Karoo | Van Der Hoven Laerskool, Herold Laerskool, Rondevlei Primary School, Klipdrift EK Primary School, Lancewood Primary School, Hoogekraal SSKV Primary School, Wabbomskraal VGK Primary School, Geelhoutboom VGK Primary School | Multi |
| | Overberg | Arieskraal SSKV Primary School, St Michael's EK Primary School, Monteith SSKV Primary School, Dennegeur NGK Primary School, Teslaarsdal Primary School, Diepgat NGK Primary School, Boontjiesdal Primary School, The Glebe Primary School | Multi |
| **9** | **34** | **248 – (29) = 219** | **Mono: 99 Multi: 120** |

**Note:** Visits were planned but not carried out in the 29 schools highlighted in *italics*. In the case of 27 of these the visits could not be completed because of a union 'go slow', when NEEDU evaluators were barred from entering schools. In the case of two schools, visits were aborted because of poor road conditions or vehicle malfunction.

# 2 Appendix

## Evaluation of NEEDU 2012 Report by DPME

The following summary is derived from the DPME report on the evaluation of the NEEDU 2012 Report (Department of Performance Monitoring and Evaluation, 2013). The evaluation received an overall score of 3.82. The follow-up, use and learning phase received the highest score (4.29), and other phases scored between "satisfactory" and "good".

In terms of overarching considerations, co-ordination and alignment received a score of 4.87, while the capacity development and partnership approach scored lowest (2.92 and 2.94 respectively). The lack of participation of the Department of Basic Education (DBE) in the evaluation process was a decision taken by the Department to encourage the autonomy of the evaluator, and ensure the credibility of evaluation findings. Despite the lack of involvement by the DBE, the utilisation of evaluation findings were judged to be a key strength of the NEEDU 2012 Report. Some questions were however raised regarding the appropriateness of the research design and this may have been avoided had consultation taken place.

Of all the evaluation phases, the planning and implementation phases received the lowest scores (3.69 each). This was mainly due to the lack of participation (partnership approach) and capacity development of the DBE. This needs to be understood in the context that the nature of the participation was determined by the Department as indicated above.

The reporting phase received a score of 3.76. The evaluation report was judged to be well written on the whole, as the content was accessible and conclusions were well constructed. The structure of the initial sections in the report (introduction, methods, sample, etc.) could have been more logical and comprehensive.

Information relating to the research design, sampling methodology, data analysis methods, limitations and ethics was omitted and this weakened the report. Using a more sophisticated software package would also have strengthened and deepened the data analysis and improved the robustness of the findings.

Coordination and alignment received a high score of 4.87 because the content and processes were well aligned to legislation, policy and literature.

**Quality assessment scores**

| Phase of Evaluation Score | | Overarching Consideration Score | |
|---|---|---|---|
| 1. Planning and design | 3.64 | Partnership approach | 2.94 |
| 2. Implementation | 3.64 | Free and open evaluation process | 3.74 |
| 3. Report | 3.76 | Evaluation ethics | 3.72 |
| 4. Follow-up, use and learning | 4.29 | Coordination and alignment | 4.87 |
| | | Capacity development | 2.92 |
| | | Quality control | 3.89 |
| **Total** | **3.82** | **Total** | **3.82** |

# Appendix 3

## Discrepancies between ANA scores obtained at schools and those in the DBE database

| Province | District | School | | DBE GRADE 1 | | SCHOOL GRADE 1 | | DBE GRADE 2 | | SCHOOL GRADE 2 | | DBE GRADE 3 | | SCHOOL GRADE 3 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Math | HL | Math | HL | Math | HL | Math | HL | Math | HL | Math | HL |
| EC | EC-GR | LUSHOF STATE AIDED PRIMARY SCHOOL | MULTI | 68 | 53 | 17 | 16 | 66 | 49 | 20 | 23 | 29 | 39 | 17 | 20 |
| EC | EC-MF | FARVIEW JUNIOR SECONDARY SCHOOL | MONO | 63 | 47 | | | 33 | 39 | | | 45 | 45 | | |
| EC | EC-MF | MAGEDLA JUNIOR SECONDARY SCHOOL | MONO | 42 | 51 | | | 31 | 34 | | | 14 | 45 | | |
| EC | EC-MF | MORULANE JUNIOR SECONDARY SCHOOL | MONO | 59 | 50 | | | 53 | 43 | | | 42 | 44 | | |
| EC | EC-MT | SIGOYO JUNIOR SECONDARY SCHOOL | MONO | 79 | 47 | | | 77 | 53 | | | 52 | 43 | | |
| EC | EC-UIT | GUSTAV REICHEL PRIMARY SCHOOL | MULTI | 76 | 70 | 61 | 63 | 69 | 59 | 70 | 71 | 51 | 49 | 45 | 46 |
| EC | EC-UIT | KLIPDRIFT PRIMARY SCHOOL | MULTI | 74 | 65 | 66 | 55 | 73 | 46 | 69 | 68 | 67 | 71 | 40 | 63 |
| FS | FS-MOT | MATLA | MONO | 50 | 37 | | | 31 | 29 | | | 33 | 49 | | |
| FS | FS-MOT | MOIPONE P/S | MONO | 58 | 63 | 67 | 59 | 46 | 39 | 45 | 39 | 36 | 51 | 36 | 52 |
| FS | FS-MOT | TAWANA I/S | MONO | 67 | 53 | 67 | 53 | 47 | 40 | 47 | 40 | 48 | 63 | 48 | 63 |
| GP | GP-GN | THERESO PRIMARY FARM SCHOOL | MULTI | 75 | 60 | | | 64 | 44 | | | 46 | 58 | 46 | 59 |
| GP | GP-GW | KWAGGAFONTEIN PRIMARY FARM | MONO | | | 78 | 65 | 58 | 46 | 60 | 48 | 36 | 38 | 36 | 38 |
| GP | GP-GW | LAERSKOOL BEKKER | MONO | 92 | 84 | | | 61 | 68 | | | 62 | 67 | 56 | 65 |
| GP | GP-GW | MALONEYS EYE PRIMARY FARM SCHOOL | MONO | | 64 | 66 | 60 | | | 60 | 56 | 53 | 58 | 59 | 62 |
| GP | GP-GW | UNITY PRIMARY SCHOOL | MONO | 71 | 52 | | | 60 | 49 | | | 47 | 49 | 46 | 48 |
| GP | GP-TW | MLOKOTWA-DUBE PRIMARY SCHOOL | MONO | | | | | | | | | 23 | 37 | | |
| GP | GP-TW | REFALOTSE PRIMARY SCHOOL | MONO | | | 33 | 54 | | | 42 | 84 | 29 | 30 | 17 | 7 |
| KZN | KZN-AJ | EMBABANE PRIMARY SCHOOL | MONO | 83 | 39 | | | 71 | 58 | | | 53 | 57 | | |
| KZN | KZN-AJ | HLOKOMANI PRIMARY SCHOOL | MONO | 47 | 29 | | | 47 | 44 | | | 18 | 38 | | |
| KZN | KZN-SIS | KWADLADLA LP | MULTI | 80 | | | | 59 | 73 | | | 48 | 52 | 52 | 62 |
| KZN | KZN-UGU | BANGIBIZO JP | MONO | 84 | 70 | | | 57 | 46 | | | 39 | 44 | | |
| KZN | KZN-UGU | EMTHINI PRIMARY SCHOOL | MONO | 74 | 58 | | | 59 | 57 | | | 44 | 65 | | |
| KZN | KZN-UGU | ETSHENILIKASHOBA PRIMARY SCHOOL | MONO | | | | | | | | | 62 | 54 | | |
| KZN | KZN-UTHUK | ENDAKA PRIMARY SCHOOL | MULTI | 55 | 52 | 47 | 42 | 60 | 65 | 45 | 54 | 51 | 65 | 55 | 50 |
| KZN | KZN-VRY | DUDUSINI PRIMARY SCHOOL | MULTI | 65 | 48 | | | 61 | 41 | | | 43 | 38 | 54 | 31 |
| LP | LP-LEB | MOLEPO PRIMARY | MULTI | | | 84 | 67 | | | 66 | 66 | 36 | | 41 | 66 |
| LP | LP-LEB | MOUPO PRIMARY | MULTI | 29 | 65 | 7 | 8 | 48 | 56 | 14 | 11 | 25 | 32 | 15 | 8 |
| LP | LP-LEB | RIETKOLK PRIMARY | MULTI | 31 | | 30 | 11 | 46 | | 46 | 48 | 15 | 22 | 14 | 24 |
| LP | LP-MOP | ALLEGRAINE PRIMARY | MULTI | 46 | 48 | 46 | 48 | 48 | 48 | 48 | 50 | 46 | 67 | 46 | 67 |
| LP | LP-MOP | H H THIELE PRIMARY SCHOOL | MULTI | 72 | 61 | | | 44 | 57 | | | 33 | 53 | | |
| LP | LP-MOP | KHUTJWANA PRIMARY | MONO | | | 83 | 49 | | | 64 | 60 | 47 | 58 | 47 | 58 |
| LP | LP-MOP | MAROBONI JUNIOR PRIMARY | MONO | 81 | 75 | 81 | | 71 | 65 | 72 | | 52 | 67 | 53 | |
| LP | LP-MOP | RANKAGALE PRIMARY | MULTI | 72 | 49 | 72 | 49 | 45 | 51 | 45 | 51 | 28 | 52 | 28 | 51 |
| LP | LP-SEK | PHAPHAMANI PRIMARY | MONO | 62 | 58 | | | 54 | 56 | | | 44 | 54 | | |
| LP | LP-SEK | PHOTO PRIMARY | MONO | 64 | 50 | | | 54 | 46 | | | 29 | 46 | | |
| MP | MP-BOH | DIPHASWA PRIMARY | MULTI | 61 | 52 | 76 | 59 | 38 | 42 | 47 | 50 | 19 | 42 | 41 | 52 |
| MP | MP-BOH | ENKELDOORN PRIMARY SCHOOL | MULTI | 51 | 21 | 26 | 25 | 37 | 23 | 32 | 31 | 25 | 61 | 35 | 23 |
| NC | NC-NAM | LELIEFONTEIN INTERMEDIATE SCHOOL | MULTI | 70 | 47 | 70 | 47 | 42 | 40 | 42 | 36 | 52 | 65 | 52 | 64 |
| NC | NC-NAM | MARAIS GEDENK PRIMÊRE SKOOL | MULTI | 78 | 57 | 80 | 60 | 87 | 62 | 87 | 65 | 67 | 75 | 65 | 76 |
| NC | NC-PKS | DOUGLAS GEKOMBINEERDE SKOOL | MONO | 85 | 77 | | | 77 | 71 | | | 59 | 72 | | |
| NW | NW-DKK | LETSATSI PRIMARY | MULTI | 44 | 58 | 11 | 10 | 50 | 48 | 15 | 11 | 43 | 64 | 26 | 16 |
| NW | NW-DRS | SEITSANG PRIMARY | MONO | 60 | 51 | 60 | 50 | 45 | 38 | 46 | 38 | 55 | 41 | 55 | 41 |
| WC | WC-EK | GEELHOUTBOOM VGK PRIM. | MULTI | 53 | 43 | 15 | 11 | 66 | 66 | 20 | 15 | 38 | 65 | 20 | 17 |
| WC | WC-EK | HEROLD LS. | MULTI | 87 | 73 | 87 | 73 | 80 | 90 | 80 | 90 | 45 | 62 | 45 | 62 |
| WC | WC-EK | HOOGEKRAAL SSKV PRIM. | MULTI | 70 | 61 | 72 | 72 | 73 | 80 | 78 | 65 | 55 | 64 | 85 | 63 |
| WC | WC-EK | VAN DER HOVEN LS. | MULTI | 84 | 70 | 84 | 70 | 78 | 54 | 78 | 54 | 46 | 48 | 46 | 48 |
| WC | WC-OVB | ARIESKRAAL SSKV PRIM. | MULTI | 69 | 49 | 69 | 49 | 68 | 60 | 68 | 59 | 43 | 75 | 42 | 75 |
| WC | WC-OVB | BOONTJIESKRAAL PRIM. | MULTI | 72 | 62 | 72 | 62 | 66 | 68 | 66 | 68 | 42 | 47 | 42 | 47 |
| WC | WC-OVB | MONTEITH SSKV PRIM. | MULTI | 71 | 46 | 71 | 46 | 54 | 54 | 54 | 54 | 58 | 61 | 58 | 61 |

# 4 Appendix

## Updates on the LNI and GPLMS

**The Lit/Num Intervention (LNI) of the WCED**

Despite the improvements recorded since the institution of the provincial systemic evaluation tests in 2002, many learners continue to perform below expected levels. In response the province launched its consolidated LNI (2006-2016). The most recent evaluation (JET Education Services, 2013) found that, after five years of the programme, the participants – WCED project managers, service providers and participating teachers – are unanimous in the view that the LNI is having a positive impact on both teachers' understanding of teaching literacy and numeracy and on their classroom practices.

These positive impacts include classrooms being more print-rich; enhanced confidence, enthusiasm and motivation of teachers to teach; better grasp of the LNI methodologies; better classroom management; more learner-focused teaching; lessons being more practical and concrete; consolidation of learning; differentiation; more group work; better use of mathematical vocabulary; and more writing in class.

NEEDU Evaluators concluded that the programme was providing a means for better coordinating efforts at improving the teaching of literacy and mathematics across the provincial, district and school levels.

However, the findings on the impact on learner achievement are inconclusive. While the systemic evaluation scores, as well as learner scores obtained through independent testing, show improvement, the lack of a credible counterfactual means that the gains cannot be confidently attributed to the intervention; they may have resulted from other factors.

The province is advised to continue with the LNI, and to commission a rigorous evaluation, preferably one that uses a randomised control trial design, to establish impact.

The country is in desperate need of effective literacy and numeracy programmes and as one that has overcome the sort of teething problems inevitably encountered in any large programme and that is being driven increasingly from within the WCED, the LNI has the potential to provide valuable lessons to other provinces.

**Gauteng's GPLMS**

The Gauteng Department of Education initiated its intervention to foster reading and numeracy skills called the Gauteng Primary Language and Mathematics Strategy (GPLMS). The GPLMS includes teacher training and prescriptive lesson plans based on research that disadvantaged schools tend to teach in a way that is less conducive to skills-learning than the teaching techniques found in ex-Model C schools. Teacher training and sets of graded reading books are also part of the intervention. The GPLMS was applied in poor-performing schools that scored 40% or below in literacy in the 2008 provincial Systemic Evaluation.

The intervention for literacy was initiated in 2011 and for mathematics in 2012. Fleisch (2014a, 2014b) has used a number of different statistical techniques in an attempt to draw out the effect of the intervention on the treatment group of schools. This includes regression discontinuity, difference-in-difference, coarse exact matching, standardised Z-scores and standard deviations.

The different methods are used because they all tackle different econometric problems in an effort to ascertain the true effect of the treatment. These analyses lead to the following conclusions:

- There is a strong local average treatment effect (LATE) on both the literacy and numeracy scores of schools that are assigned to the treatment.
- The LATE represented an improvement of 4 - 9 percentage points more in test scores than the control group in the first full year of implementation and approximated 7 - 11 percentage points in the second year.
- However, all the statistical models applied in the analysis suffered from omitted variable bias regarding test instrument effects. This means that the fact that the ANA tests are not necessarily comparable from one year to the next means that there cannot be certainty about what is driving these positive results.

The improved scores shown by schools receiving the GPLMS may be due to a test instrument effect or to a treatment effect.

# Summary table of macro-analysis of DBE mathematics workbooks

| Page number | Description | Percentage complete | Comment on learner work |
|---|---|---|---|
| 8 | Write 4-digit numbers in expanded notation | 84% | A fairly good idea of expanded notation. The most common mistake was the number 7605 expanded to *7000 + 60 + 5* (4b). |
| 9 | Write 3- and 4-digit numbers in words | 88% | Generally successful in this exercise. Some would however write 4729 as *four seven two nine* (5f). A common error was to write: *four thousands seven hundreds and twenty nine.* |
| 10 | Count forwards and backwards in multiples of 100 | 81% | About half of the learners did not experience problems with this exercise, except for lack of precision. Most common mistake was ignoring the multiples of 100; and would, for example, carry on with 600; 900; 1200; *1300; 1400; 1500* (1d). |
| 11 | Complete to the next 10 and completing to the next 100 | 87% | A very high success rate was observed with completing to the next 10, like 164 + *6* = 170, but great difficulty was experienced with completing to the next 100, such as 164 + *6* or *40* = 200. A pattern of mistakes could not be established, as general incapability was demonstrated through random answers. |
| 12 | Add two numbers, up to 4-digits, using both expanded notation and an expanded column method | 83% | Discussed in section 6.4.3 |
| 13 | Subtract two numbers, up to 4-digits, using either expanded notation or an expanded column method | 73% | Discussed in section 6.4.3 |
| 14 | Multiples and completing a 9 x 9 grid | 71% | Either completed this grid successfully or it was just not done. |
| 15 | Write arrays of counters as "multiplication sums" up to 8x10, repeated 10 times | 82% | Most learners merely counted the number of objects and wrote the total, for example, 2c: *30,* rather than write 3 x 10, which was the aim of the exercise. A small number of learners wrote the representation of counters as a multiplication sum, which was the aim of the task. |
| 16 | | 81% | Most learners merely counted the number of objects and wrote the total, for example, 2c: *30,* rather than write 3 x 10 - the aim of the exercise. A minimum of learners wrote the representation of counters as a multiplication sum - the aim of the task. |
| 17 | Multiply 2-digit numbers, using both expanded notation and an expanded column method | 75% | Discussed in section 6.4.3 |
| 18 | Write "division sums" for specified numbers situated in a 9x9 grid | 64% | A small number of learners grasped the link between the grid, which provided the factors of the numbers in the coloured squares as shown. It was not clear how the a, b, c, etc. were meant to reflect the numbers in question. A number like 72, situated on the grid as the eighth multiple of 9, would, for example, be written as *72÷12=6,* which had nothing to do with the grid above, or *9÷3=3.* |
| 19 | Complete "spider diagrams" involving division | 68% | Learners seemed well acquainted with this activity and were generally successful. |
| 20 | Write "division sums" for arrays of counters | 61% | In a response similar to pages 15 and 16, most learners merely counted the number of objects and wrote the total e.g., 3c: *30*. A small number of learners wrote the counters as a division sum, which was the aim of the exercise. |

# 6 Appendix

## The column' algorithm for addition unpacked

In order to steer learners into the creation and/or deepening of the conceptual grasp of algorithms, the writing report (NEEDU 2014b) recommends that teachers begin with a single algorithm for each of the four operations, and spend a substantive period of time on engaging learners on all three levels of understanding: factual knowledge, conceptual grasp and operational efficiency. Every step needs to be stressed until learners grasp the meaning of the steps, until they see the sense of expanding, until they realise that they are multiplying 60 by 300 (not 6 x 3), according to its place value (not the digit value), and not only manipulating symbols to get to the right answer. This process is demonstrated in the example below:

### A vertical column method using expansion of number

| Th | H | T | U | | |
|---|---|---|---|---|---|
| | 3 | 4 | 7 | | We are going to multiply 347, which is 300 + 40 + 7 |
| × | | | 6 | 5 | by 65, which is 60 + 5 |
| | | | 3 | 5 (5 x 7) | We multiply 5 x 7 = 35, write down **35 (5 x 7)** |
| | 2 | 0 | 0 | (5 x 40) | We multiply 5 x 40 = 200, write down **200 (5 x 40)** |
| 1 | 5 | 0 | 0 | (5 x 300) | We multiply 5 x 300 = 1500, write down **1500 (5 x 300)** |
| | | | | | We have dealt with the 5 of the 65, now we go to the 60 |
| | 4 | 2 | 0 | (60 x 7) | We multiply 60 x 7 = 420, write down **420 (60 x 7)** |
| 2 | 4 | 0 | 0 | (60 x 40) | We multiply 60 x 40 = 2400, write down **2400 (60 x 40)** |
| 1 | 8 | 0 | 0 | 0 (60 x 300) | We multiply 60 x 300 = 18000, write down **18000 (60 x 300)** |
| **2** | **2** | **5** | **5** | **5** | We now add up all of the products |

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