Report on Progress in the Schooling Sector Against Key Indicators

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EXECUTIVE SUMMARY

The current report represents an important milestone in the shift towards more evidence-based planning and management in the basic education sector. It moreover promotes the principles expressed in government's 2009 Green Paper on strategic planning, including the promotion of holistic sector-wide monitoring, a focus on outcomes and making critical use of the available data. The current report pays special attention to 18 indicators dealing with educational attainment and learner performance, many of which appear in the 2010 Delivery Agreement for the sector. This report can be regarded as a prelude to a subsequent report that will deal with all the basic education sector indicators identified by the Department of Basic Education (DBE), including indicators dealing with inputs and processes in the schooling system.
There are trends discussed in this report that confirm that government's efforts are directed, on the whole, towards the right things. But there are also trends that are worrying and point to the importance of stepping certain kinds of actions. Compliance against government targets is examined, but in a manner that avoids simplistic conclusions and considers the degree to which targets that have been set are realistic, as opposed to purely aspirational.

A very welcome trend is the **improvement seen in Grade 9 mathematics and science performance according to the international TIMSS programme**. Specifically, the 2011 average scores for South Africa, whilst still low by TIMSS standards, are considerably higher than those seen in 2002, when TIMSS was last run in South Africa. In fact, the size of the improvement is about as large as was possible. This is the first time that we have seen an unambiguous improvement pattern in an international testing programme. The suggestion is that South Africa has finally begun to shift away from the legacy of unacceptably low learner performance averages. If the improvement trend seen in TIMSS can be sustained, South Africa will be in a position to reach, by 2025, the learner performance levels currently seen amongst the best developing country performers, such as Uruguay and Tunisia. What is especially pleasing is that the 2002 to 2011 improvement occurred whilst the percentage of youths completing Grade 9 also increased, from around 80% to 85%.

Another clearly positive trend has been the **increase in the number of Grade 12 learners emerging from the public examination system with a Bachelors level pass**, giving these learners the opportunity to enter Bachelor degree programmes at university. The number of such passes in 2012 was the highest it had ever been and during the 2008 to 2012 period there was an average increase of 6,1% a year, in a context where the youth population was growing by just 0,1% a year. This improvement trajectory should continue if South Africa is to deal with the shortfall of skilled university graduates.

The **growth in the percentage of young children participating in Grade R before proceeding to Grade 1 has continued**, though as the universalisation of Grade R gets closer, the rate of this growth is slowing down. Around 94% of Grade 1 learners in 2012 had been through some form of Grade R, within an ordinary school or in some other institution. In 2010 this figure was 87%. The number of Grade R learners in ordinary schools more than doubled between 2003 and 2012. What is less known is that even below Grade R, enrolment in an education institution has increased. A likely cause of this is that more public funding of Grade R has allowed households to spend more on the education of even younger children. Even amongst children as young as three, enrolment in an institution increased significantly, from 20% in 2003 to 70% in 2011.

The report also discusses a number of trends that are worrying. At the Grade 12 level, **the number of passes in the critical subjects mathematics and physical science dropped substantially**, starting in 2008 when the new Grade 12 examinations were introduced. However, the 2011 to 2012 trend has been a strongly positive one. If that trend can be sustained and even strengthened, government's long range targets in this regard will still be attainable.
Although the percentage of youths obtaining the National Senior Certificate is rising, the increase has been a slow one, and is at about half the rate envisaged in government's targets. The actual improvement in this indicator each year is around 0,8%, the current level of the indicator value being around 42%. This points to the need to strengthen interventions aimed at improving learning and teaching in schools. At the same time, it is important to monitor the effects of past interventions and to make the most of opportunities created by existing improvement trends. Specifically, how the improvements at the Grade 9 level identified by TIMSS can best be harnessed to bring about improvement at the Grade 12 level, is a critical question.

The report points to a number of important province-specific patterns. Eastern Cape and Northern Cape continue to display exceptionally low levels of outcomes at the Grade 12 level, relative to the population and enrolments in the earlier grades. Western Cape, though a relatively good performer at the Grade 12 level, could probably perform a lot better here if one considers that it consistently emerges as the best performing province in the earlier grades. Poor learners in Limpopo continue to perform considerably worse than similarly poor learners in other provinces. Yet this pattern co-exists with an unexpectedly good level of performance at the Grade 12 level in this province.
The report indicates that despite problems with the available data, there is much that can be done with these data. In many ways, insufficient utilisation of data is a larger problem than data quality or the availability of data in the quest for more evidence-based education planning in South Africa. The report makes a few specific recommendations regarding data. There is a need for the DBE, Umalusi and the Department of Higher Education and Training to collaborate more closely so that a more holistic monitoring of the education of youths, including youths at Further Education and Training (FET) colleges, part-time examination candidates and students falling under the Independent Examinations Board (IEB), is achieved. 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.

INTRODUCTION

The basic education sector is at a critical juncture. A number of large-scale new initiatives have been introduced in the last four to five years to address under-performance in schools. Current reforms form part of a larger effort by government to improve the delivery of government services in the interests of a better life for all. 'Improved quality of basic education' is Outcome 1 of twelve central outcomes declared by President Zuma. In 2010 a Delivery Agreement for Outcome 1 was signed[1]. This report provides analysis of progress with respect the educational outcomes referred to in the Delivery Agreement. The Delivery Agreement for basic education draws key elements from the longer *Action Plan to 2014: Towards the realisation of Schooling 2025* (the 'Action Plan') made public in early 2012[2]. Specifically, the Delivery Agreement puts forward a number of indicators, which is a subset of the indicators described in the Action Plan. This report pays particular attention to measurement against the educational outcome indicators of both documents. By educational outcomes is meant, above all, the extent to which children and youth are reaching specific levels of the schooling system, and how well they learn, judging from data emerging from the Grade 12 examinations, the Annual National Assesments (ANA) and the international assessment programmes that South Africa participates in.

In line with government's drive for more evidence-based reporting and policymaking, this report makes critical use of a wide range of data sources. The report acknowledges the limitations of many of the data sources and assesses improvements currently under way to improve this situation. At the same time, it seems clear that there is room for better use of the available data in order to generate a more accurate picture of the challenges facing the various stakeholders in the sector. This report should be seen as part of a larger process, occurring inside and outside government, towards a more evidence-based education discourse.

This report focuses in particular on progress made in the months and years immediately prior to the finalisation of the report in mid-2013. Inevitably, coverage in terms of time periods is dependent on the data that were available when the analysis was undertaken. In this regard it is important to note that the EMIS data that were available for analysis extended to the 2012 school year, whilst Statistics South Africa data drawn from the General Household Survey were available up to 2011.

The report has three main parts. In the first part, the general trends and what this means for planning within the sector, are outlined, both with respect to educational attainment (how far learners progress within the system) and learner performance (how well learners learn). Thereafter, an extensive appendix provides tables and graphs that back up the first part of the report. Province-level details are provided in the appendix and key methodological issues are discussed. The final part of the report consists of a table that sums up the values and trends with respect to the Delivery Agreement and Action Plan indicators.

What the current report does not do is to focus on indicators dealing with inputs and processes in the schooling system, for instance indicators dealing with school funding and staffing. Those indicators constitute more or less the second half of the set of indicators put forward in the Action Plan. Analysis against them is at an advanced stage, but was not completed in time for the release of the current report. It is expected that the current report will be extended in the near future to incorporate a full analysis of inputs and processes. The current report thus covers the first eighteen indicators from the Action Plan, many of which also appear in the Delivery Agreement.

ENROLENT AND ATTAINMENT TRENDS

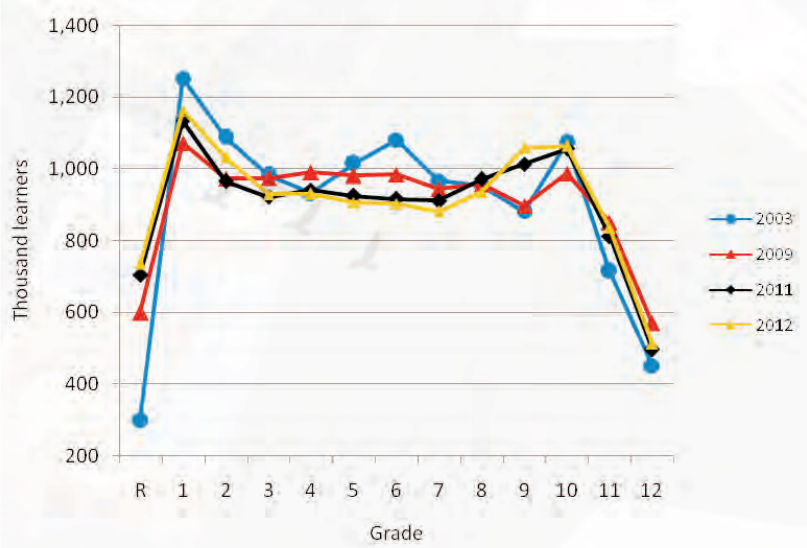
Progress with respect to educational outcomes must be monitored in terms of both quantitative indicators such as enrolment ratios and grade attainment statistics and more qualitative indicators such as Grade 12 pass rates and results from standardised assessments below Grade 12.

Close to 100% of children of compulsory school-going age in school. The South African Schools Act requires all children to attend school from the year in which they turn seven to the end of the year in which they turn fifteen. In addition, various government programmes are designed to promote enrolment below age seven and above age fifteen. Attendance for the critical 7 to 15 age range continues to be high and has been improving. As pointed out in the Department of Basic Education's 'macro indicator' report[3] of 2011, since 2003 at least 97% of children aged 7 to 15 have been enrolled in a school according to Statistics South Africa's General Household Survey (GHS). According to the 2011 GHS, 98.8% of children in the 7 to 15 age range were attending school and the corresponding provincial figures were all high (see Table 2 in the appendix). The figures mean that in 2011 there were around 100 000 out-of-school children aged 7 to 15, and 75 000 such children aged 7 to 14 (it is legal for a child to leave school when aged 15 as long as the child turned 15 in the previous year).

1 Department of Basic Education, 2010.
2 Department of Basic Education, 2011a.
3 Department of Basic Education (2011b).

Increases in Grade R enrolment. Figure 1 below illustrates the enrolment trend in public ordinary schools since 2003. Two clear trends stand out. One is the increase in Grade R enrolment, which more than doubled between 2003 and 2012, from around 300 000 to 735 000. As indicated by Figure 10 in the appendix, much of the expansion in Grade R has been concentrated in Eastern Cape and KwaZulu-Natal, which together account for just over half of the 2003 to 2012 growth. It should be noted that the national increase in public ordinary school Grade R enrolments has slowed down somewhat after 2010. It is possible that constraints within schools (such as a lack of classrooms), provincial budgetary constraints and a slowing down of the demand for Grade R from households may have contributed towards this slowing down in enrolment growth.

Figure 1: Public school enrolment patterns 2003-2012

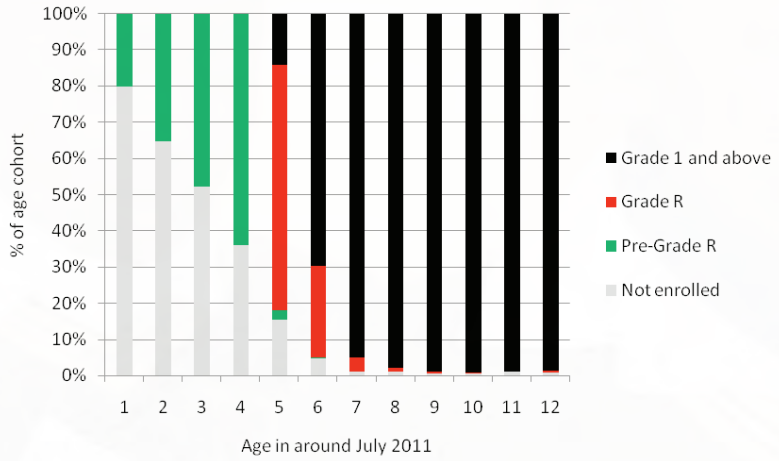


Source: Enrolment publications of DBE.

Percentage of Grade 1 learners who have been through Grade R. Importantly, not all Grade R occurs in schools. Some occurs in separate pre-schools or community-run centres. Since 2009, the GHS has asked whether children are enrolled in Grade R, regardless of type of institution. The situation in 2011 is illustrated in Figure 2. The GHS also asks whether a learner is repeating Grade R. The percentage of repeaters in Grade R is low, as one might expect, at 3.0% in 2011. Grade R learners who are not repeating as a proportion of the age 6 population cohort in any year is an important approximate indicator of the proportion of first time Grade 1 learners in the next year who will have experienced Grade R. The 2011 GHS data point to this indicator value for 2012 being 94%. The values obtained from the 2009 and 2010 GHS datasets are 87% and 92% respectively. There has thus been a steady increase over the years 2009 to 2011.

The GHS samples are too small to provide reliable annual statistics for each province. However, the average across the three years 2009 to 2011 can be considered reliable at the provincial level. These provincial averages range from around 80% in the case of KwaZulu-Natal to over 90% all other provinces except for Northern Cape and North West (see Figure 11 and Table 3). A comparison of the GHS data and official enrolment data suggest that around 81% of Grade R was being offered in schools which also offered Grade 1 in 2011, meaning the remaining 19% of Grade R would be offered outside of ordinary schools. This situation varies to a large degree across provinces, from rather low levels of schools-based Grade R in provinces such as Gauteng and Free State to extremely high levels in Eastern Cape and Limpopo.

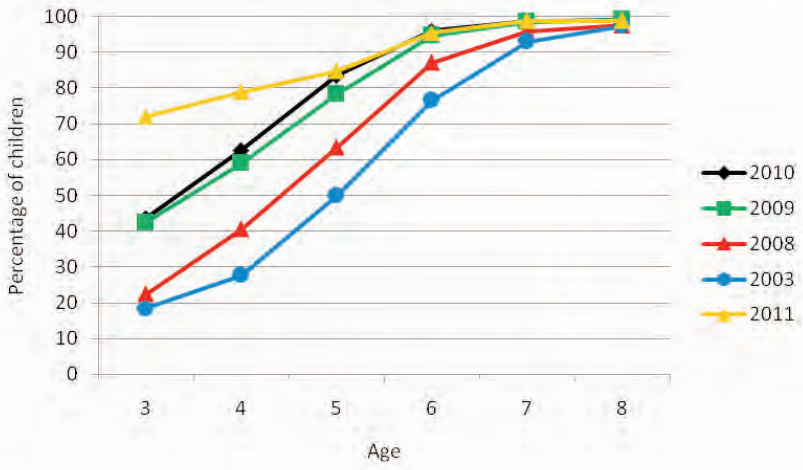
Figure 2: Grade R access according to 2011 GHS



Source: General Household Survey dataset, 2011.

Increases in enrolment even below Grade R. The following graph reflects enrolment in any education institution, according to the GHS, in different years. Importantly, enrolment in an institution has increased even at ages below age 5. In part, this can be considered a result of the expansion of Grade R. As anticipated by the original 2001 White Paper on early childhood development (ECD), more publicly funded Grade R allows households to spend more on education and childcare below Grade R.

Figure 3: Enrolment ratios ages 3 to 8



Source: General Household Survey datasets.
Note: In this graph and elsewhere in this report, statistics based on the General Household Survey should be interpreted in the light of the fact that the data are from a sample and that thus confidence intervals apply. Where statistics apply to a smaller portion of the sample, confidence intervals become fairly wide. To illustrate, the percentage of children of age 3 who were enrolled in 2011 was 72.1% (this is shown in the graph), but the confidence interval for this statistic was 70.1% to 74.0% (using a 5% level of significance).

Poorer provinces have higher pre-school enrolment ratios. Table 4 in the appendix indicates that the provincial range for the enrolment ratio of children aged five or six lies between 84% (Western Cape) and 97% (Limpopo). The national figure is 90%. What is reassuring from a poverty alleviation angle is that poorer provinces tend to have the highest enrolment ratios. The greatest improvement with respect to the enrolment of the age five to six cohorts in the 2003 to 2011 period has occurred in Mpumalanga and Northern Cape.

Grade repetition and changing enrolment distributions. The second key trend seen in Figure 1, apart from the Grade R enrolment increases, is a decrease in enrolments in Grades 1 to 7. In the 2003 to 2012 period, the number of learners enrolled in these grades declined from around 7,3 million to 6,7 million. The bulk of this decline is due to a reduction in grade repetition. As discussed above, enrolment of children one would expect to see in these grades has remained high over the period. The decline in enrolments in Grades 1 to 7 is clearly not an indication of more out-of-school children. This decline has facilitated the expansion in Grade R, for instance because classrooms have been freed up for Grade R.
Age-grade alignments improving, but slowly. The 2010 Annual Survey of Schools brought about an important improvement in the way the age of learners is monitored. Instead of capturing the age of the learner on the day of the survey, as had been done before 2010, from 2010 learners were classified according to year of birth. This has made it easier to monitor compliance against age-grade norms. The annual surveys for 2010 to 2012 indicate that there have been some improvements. For instance, the percentage of learners who turned 12 in the previous calendar year and who were in Grade 7 or a higher grade improved from 39,0% to 40,9% between 2010 and 2012 (see Table 5 in the appendix). In the absence of any grade repetition or late entry into Grade 1, these figures would be 100%. The rate of improvement is more or less in line with the targets outlined in the Action Plan, which envisages improvements to these kinds of indicator values of around one percentage point per year. It is important to bear in mind why these kinds of trends are desirable. Better alignment between age and grade in the schooling system, apart from pointing to less grade repetition and thus, hopefully, better learning in the case of individual learners, is important insofar as a wide range of ages within the same class is known to exacerbate discipline problems.

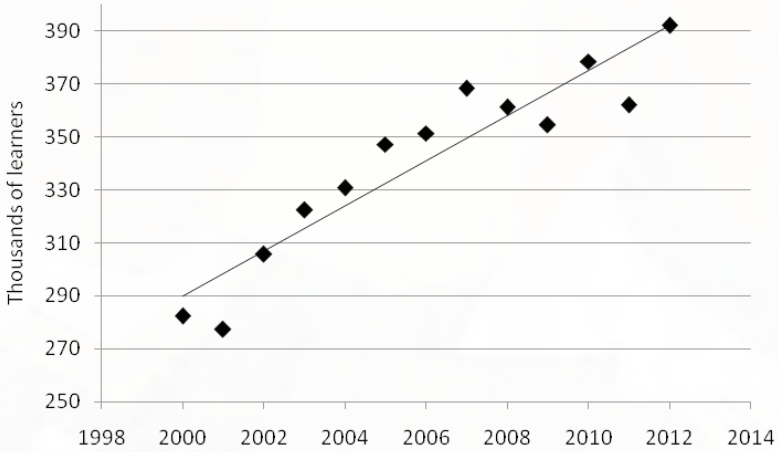
Increase in secondary level enrolments. The enrolment trend in Grades 8 to 12 has been a complex one. Overall, there was an increase in enrolments between 2003 and 2012, from 4,1 million to 4,4 million. Underlying this trend are two opposing dynamics. On the one hand, enrolment of over-aged learners in Grades 8 to 12 has declined, partly through a reduction in grade repetition. This has tended to reduce learner numbers. To illustrate, the GHS indicates that the percentage of 25 year olds enrolled in Grades 8 to 12 declined from 8% to 1% between 2003 and 2011. On the other hand, there has been an improvement in the percentage of youths completing grades 10, 11 and 12. Grade 12 completion is discussed below. Thus a greater proportion of learners progresses to higher grades, but whilst repeating fewer grades.

Improvements in Grade 12 attainment are happening, but slowly. Two important educational outcome indicators referred to in the Action Plan are, firstly, the percentage of youths obtaining the National Senior Certificate (NSC) from a school and, secondly, the percentage of youths obtaining any Further Education and Training (FET) qualification, whether the NSC or some other qualification, for instance an equivalent qualification from an FET college. As explained in the appendix, different data sources can produce rather different values for these two indicators. However, careful consideration of the data suggests that in the 2009 to 2011 period the first indicator value stood at around 42% and the second only slightly higher at around 43%[4]. Are improvements currently occurring? The Grade 12 pass rate is a widely publicised indicator and here there has been a clear upward trend. For instance, the pass rate increased from 64% in 2008 to 76% in 2012, with increases occurring every year except for 2009 (figures here refer to the situation after supplementary examination results have been counted, and considering full-time students only).

But the number of Grade 12 passes has also increased, whether one consider just the period since 2008, when the new NSC was introduced, or a longer historical period. The period 2008 to 2012 saw the number of full-time passes increase by around 7 000 learners per year (see Table 6 in the appendix). Figure 4 below illustrates the 2000 to 2012 trend. Despite considerable unevenness in the trend, overall it has been a positive one, with the number of full-time passes increasing by around 8 500 per year. Over the 2000 to 2012 period, the population aged 18 increased by around 0,4% per year. This means that the percentage of one youth age cohort obtaining the Matric at school improved by around 0,9 percentage points a year. A similar trend is seen if one considers just the period 2008 to 2012. The Action Plan envisaged an improvement of around 2.0 percentage points a year. In other words, the current pace of progress is around half as fast as it should be. There clearly remains much to be done to improve the preparedness of learners for the Grade 12 examinations through quality improvement interventions at all levels of the system. What have been some of the provincial trends? Gauteng continues to produce an exceptionally high number of NSC passes relative to the population. The percentage of youths obtaining the NSC has come to around 49% in recent years if one counts part-time students and students moving through the Independent Schools Examination Board (IEB) system (see discussion following Table 9 in the appendix). The most noticeable upward trend in the number of passes has been that of Eastern Cape. Here annual growth in the number of full-time passes was 6,6% in the 2008 to 2012 period, despite the fact that the size of the young age cohorts is declining in this province (see Table 6 but also Figure 13 in the appendix).

4 See discussion in the indicator table at the end of the report on the various components of the sector that make up these indicators.

Figure 4: Number of full-time Grade 12 passes in schools



Source: Published examinations reports with post-supplementary figures included for all years.

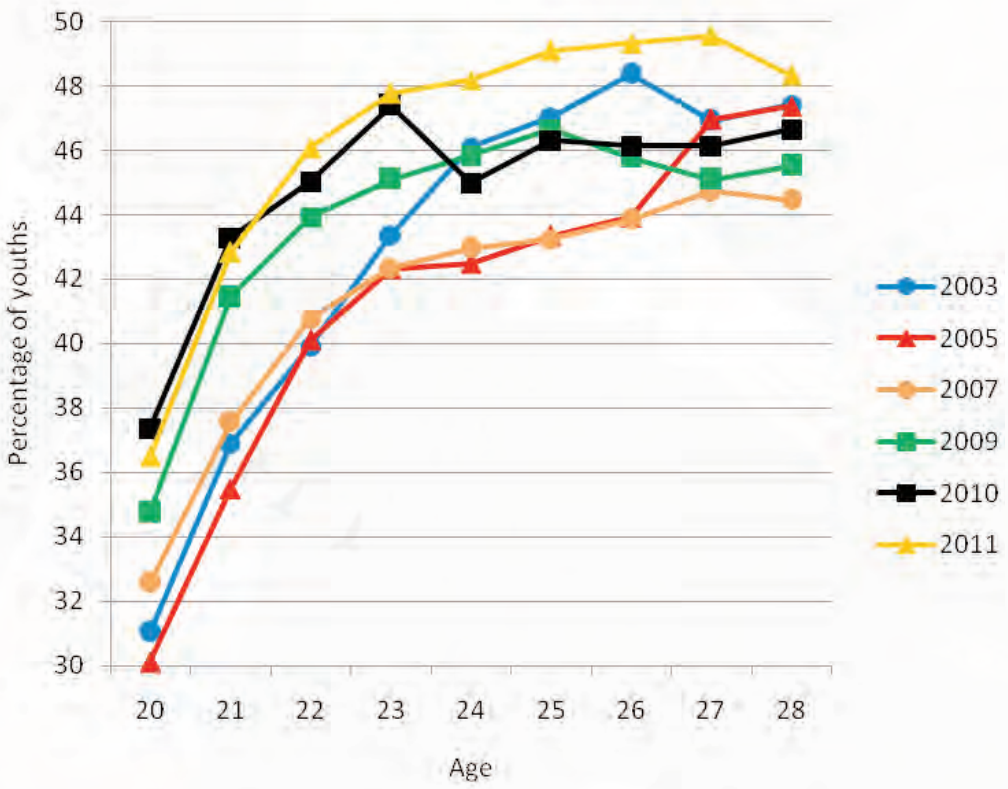
National Senior Certificate graduates amongst part-time students. What is excluded from the above graph is an increasing number of youths obtaining their National Senior Certificate outside the schooling system as part-time candidates. The number of part-time candidates has increased dramatically, from around 1 000 in 2008, to around 80 000 in the years 2010 to 2012. This reflects government's commitment to giving youths a variety of opportunities to obtain the NSC, even if they do not succeed in obtaining it at the first attempt in a school. The following table reflects all NSCs issued, including those for part-time candidates and those of the non-public Independent Examinations Board (IEB), according to Umalusi, for the period 2008 to 2011. Generally the full picture for all NSCs is not presented in this manner, resulting in a situation where the total number of 'Matrics' per year in the countries is often under-estimated. In 2010 and 2011 the number of NSCs issued to part-time candidates reached almost 7 000. Counting these passes thus increases the number of passes in the public examination system by almost 2%. It should be noted that around 50% of part-time students write their examinations at an ordinary school, meaning the schooling sector is actively involved in promoting the life opportunities of youths, even those who have finished attending school full-time. The number of part-time students relative to full-time students varies considerably by province. Gauteng appears to have been particularly successful at promoting re-attempts at the examinations through part-time participation (see Table 7 in the appendix).

Table 1: NSCs issued to full- and part-time students 2008-2011

	Reported in DBE examinations reports	Umalusi figures			
	Total passes amongst full-time candidates in the public examination system after supplementary results included (as in Figure 4) (A)	Total NSCs issued per examination cycle according to Umalusi (B)	Part of B accounted for by full-time students (C)	Part of B accounted for by part-time students: Virtually all from public examinations system	Difference between A and C: Mostly IEB
2008	361,262	370,548	370,320	228	9,058
2009	354,673	365,222	363,493	1,729	8,820
2010	378,486	395,085	388,463	6,622	9,977
2011	362,060	378,461	371,523	6,938	9,463

Earlier attainment of Grade 12. Attainment of Grade 12 is not easy to monitor because youths obtain their National Senior Certificate (NSC) or 'Matric' at a variety of ages and some do so outside of full-time schooling. In the General Household Survey, youths are asked what the highest level of education is that they have successfully completed. From the responses, it is possible to tell who has completed Grade 12. Statistics in this regard are presented in Figure 5 below. To some extent, the household data reflect the increases in Grade 12 passes discussed above. It is noteworthy that the 2011 curve is higher than this curve has been in any previous year. The upward movement of the curves is particularly clear for younger individuals, which is indicative of the fact that not only has there been an increase in the attainment of Grade 12, attainment of Grade 12 is also occurring at a younger age, meaning youths are able to access opportunities associated with the NSC sooner in life. The possible reasons why the curves in Figure 5 in many cases extend beyond the 42% Grade 12 attainment figure referred to above, is discussed in the appendix.

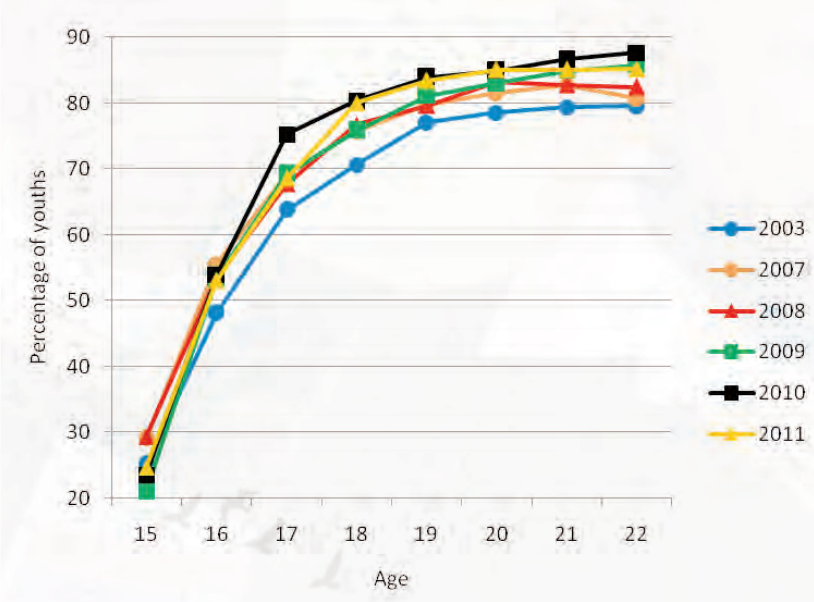
Figure 5: Grade 12 attainment amongst youths



Source: General Household Survey datasets.
Note: For the above graph youths with FET college qualifications were all considered to have a Grade 12 certificate. In reality some do not, though the figures in this regard cannot be extracted from the GHS. However FET graduates are treated in the analysis, the overall picture shown by the graph remains (in the age range in question only around 2% of youths say they have an FET college qualification).

Moving towards universal completion of Grade 9. Grade 9 is the end of the General Education and Training (GET) band of the curriculum and implicit in the South African Schools Act is that every learner should complete at least Grade 9. Whilst close to 100% of learners stay in school until the age of 15, the percentage of learners who complete Grade 9 is lower. However, the situation in this regard has been improving. As illustrated in the following graph, the percentage of youths who by age 22 had completed Grade 9 improved from 80% in 2003 to around 85% in the years 2009 to 2011. At age 18 the figure improved from 71% to 80% over the same period. These are important signs of progress. As Figure 16 in the appendix shows, the improvement has occurred in all provinces, with Free State displaying exceptionally rapid progress. However, the chances of attaining Grade 9 are still highly dependent on the province in which a youth finds himself or herself. Grade 9 remains in 2011 far more attainable for youths in Limpopo than in Eastern Cape, for instance. Moreover, as shown by Figure 6, many youths are attaining Grade 9 too late in life.

Figure 6: Grade 9 attainment amongst youths



Source: General Household Survey datasets.

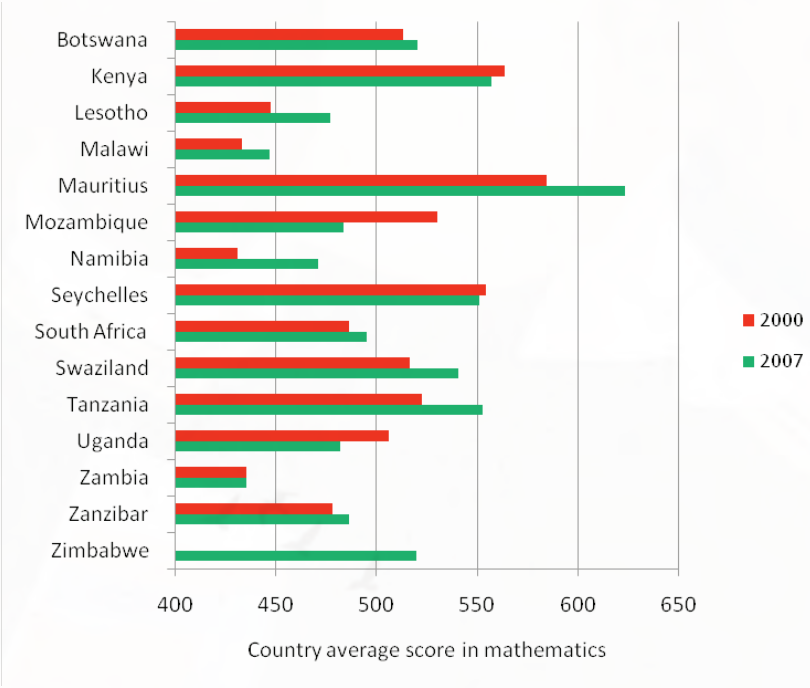
Factors behind improvements in grade attainment. Progress with respect to grade attainment at the secondary level can be attributed to a number of government initiatives aimed at improving learner retention at this level. In particular, the declaration of no fee schools has removed important financial barriers to attendance. The extension of publicly funded school nutrition to the secondary level and policies aimed at ensuring that pregnancy amongst female learners does not lead to permanent dropping out, have also played a role. The recent extension of the Annual National Assessments to Grade 9 is aimed partly at strengthening the focus on the basic competencies of learners at this level, something that is necessary if participation and pass rates in the subsequent Grade 12 examinations are to be improved. Support programmes aimed at learners and teachers in Grade 12 have also been stepped up in recent years.

LEARNER PERFORMANCE

Why the 2011 TIMSS results are so significant. Since 1994, South Africa has participated in six assessment exercises within two different international testing programmes that allow for tracking progress over time using rigorous and comparable measures of learner performance. The two programmes are TIMSS[5] (participation in 1995, 1999, 2002 and 2007) and SACMEQ[6] (2000 and 2007). South Africa did also participate in PIRLS[7] in 2006 and 2011. However, the 2006 and 2011 results are not comparable as different grades were focussed on. The TIMSS and SACMEQ results have been disappointing, both in the sense that South Africa's performance has been weak relative to that of other countries, and because the desired improvements have not occurred. Figure 7 shows the situation for mathematics in SACMEQ. The small apparent improvement in the case of South Africa was not large enough to be considered statistically significant. Other countries, such as Mauritius and Namibia, did experience statistically significant improvements over the 2000 to 2007 period. However, the 2011 TIMSS results indicated that the improvement between 2002 and 2011 in both mathematics and science at the Grade 9 level was large and statistically significant, albeit off a low 2002 base[8]. This is very encouraging as it indicates that efforts to break the cycle of low performance in South Africa's schools are starting to pay off. The TIMSS trends can be seen as evidence not just of improvements in Grade 9 and with respect to the two TIMSS subjects, but an improvement in general, given the inter-connectedness of performance in specific grades and subjects.

5 Trends in International Mathematics and Science Study.
6 Southern and Eastern Africa Consortium for Monitoring Educational Quality.
7 Progress in International Reading Literacy Study.
8 See Reddy, Prinsloo, Arends and Visser (2012). That report explains how in 2002, both grades 8 and 9 were tested, allowing for a comparison against Grade 9 in 2011.

Figure 7: SACMEQ mathematics averages by country



Source: Makuwa (2010).

The size of the TIMSS improvement in an international context. How large are South Africa's TIMSS improvements compared to improvements that have been seen elsewhere? The improvement between South Africa's 2002 Grade 9 mathematics mean of 285 and the figure for 2011 of 348 represents an overall difference of 63 TIMSS points, or an improvement of 7.0 points a year[9]. This is an annual improvement that is at least twice as large as what is found amongst the best improvers amongst other TIMSS countries[10]. This is not too surprising, however, as South Africa had to improve of an exceptionally low base and improvements become more difficult to achieve the higher the point of departure. If one views improvements in terms of the standard deviation that existed in the base year it becomes possible to make rough comparisons across different testing programmes. Moreover, viewing improvements in terms of standard deviations is also useful for understanding the Annual National Assessments (ANA) results, as discussed below. The standard deviation in South Africa's 2002 Grade 9 TIMSS mathematics results was 90 TIMSS points. Therefore the improvement of 7.0 TIMSS points per year translates to 0.08 standard deviations per year. This size of improvement is amongst the best that seems possible in any testing programme. For instance, it is similar to the exceptionally large improvements experienced by Namibia in SACMEQ between 2000 and 2011 and by Brazil in PISA[11] between 2000 and 2009. The discussion here relates to South Africa's mathematics performance in TIMSS, but a similar argument would apply with respect to science.

The TIMSS trend in the context of greater and younger attainment of Grade 9. Not only did the average performance of Grade 9 learners improve between 2002 and 2011. As has been discussed above, learners have been finishing Grade 9 at a younger age and a greater proportion of youths has been completing Grade 9. The TIMSS scores do thus not capture the entire picture as far as improvements in educational outcomes are concerned. The average age of Grade 9 learners declined from 16.9 to 16.1 between 2002 and 2011 according to the TIMSS background data. It is possible to simulate what the 2011 results would have been if coverage of learners had been what it was in 2002, and assuming that the improvements in coverage would have applied to more socially disadvantaged learners who would be spread amongst the lowest two performance quintiles in 2011. The simulation showed that the national average would have risen by 4 TIMSS points, for instance from 348 to 352 counting only public schools.

9 The overall mean for South Africa in 2011 was 352 and not 348. However, the value of 352 includes independent schools, whilst without these schools the mean becomes 348. Considering independent schools were not included in the 2002 Grade 9 sample, the value 348 for 2011 should used for the comparison between the two years.

10 See Mullis, Martin, Foy and Arora (2012: 56). All the countries for which comparisons across years are provided took TIMSS at Grade 8 and not Grade 9, as in the case of South Africa. However, this does not affect the argument presented above to any significant degree.

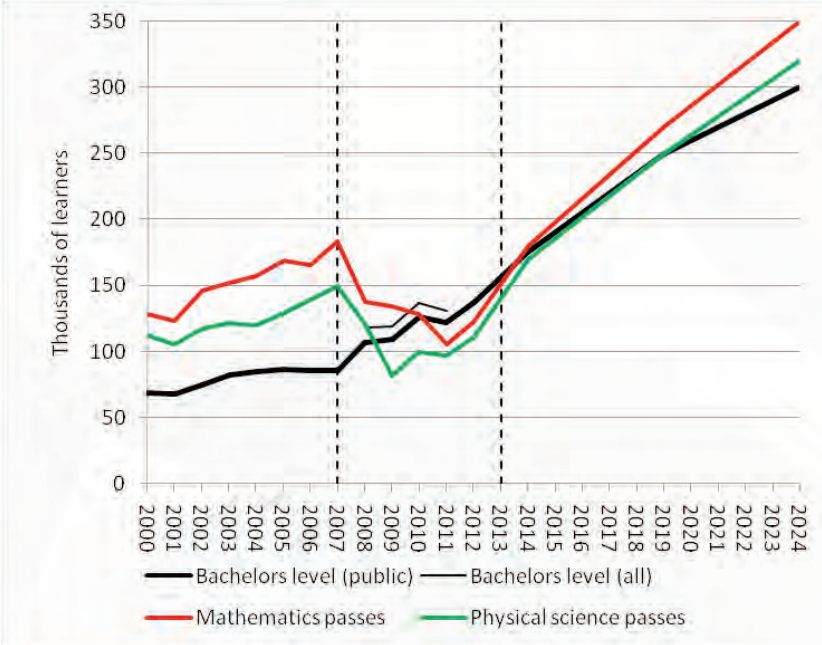
11 Programme for International Student Assessment.

What lies behind the 2002 to 2011 TIMSS improvements? Whilst the magnitude of the improvement seen in TIMSS is larger than most expected, it was reasonable to expect some improvement given changes that have occurred to the resourcing of schools and efforts made to change what occurs in classrooms. Analysis of the TIMSS data, which includes a wealth of information obtained from learners, teachers and school principals, will assist in clarifying what lies behind the changes in performance. Likely change factors would be the greater availability of educational materials, a gradual move towards greater clarity and consistency in the curriculum documents and a stronger emphasis on the use of standardised assessments. It is possible that the Foundations for Learning campaign, starting in 2008 and focussing on providing materials and teacher training for grades R to 6, had a ripple effect that was felt in Grade 9 by 2011. Learners in Grade 6 in 2008 would have reached Grade 9 in 2011, assuming no grade repetition. Non-personnel current spending per learner quadrupled between 2000 and 2010 in real inflation-adjusted terms, allowing for more spending on textbooks, school nutrition and other inputs needed for successful schooling to occur. The roll-out of state-funded school lunches at the secondary school level was at an advanced stage by 2011. General Household Survey data indicate that the percentage of learners in grades 8 to 12 who were recipients of school lunches increased from 27% in 2009 to 59% in 2011. The percentage of schools without electricity declined from 45% in 2000 to 11% in 2011.

Interpreting the ANA results. Part of the intention of the Annual National Assessments (ANA) programme is to establish more reliable information about how well particular schools, districts and provinces perform in key subjects, and whether there is improvement over time. The 2011 and 2012 runs of ANA represented a major step forward for the schooling system. ANA has begun to make it easier to determine which pockets of the system require the most urgent assistance and which schools can take pride in their performance and serve as role models for other schools. However, ANA results are still not as reliable as they should be and comparisons need to be undertaken with care. Over time, as test design and marking procedures improve, results should become a lot more comparable. Despite problems, provincial averages in ANA 2012 are more or less in line with the results seen in, for instance, SACMEQ 2007 (see Figure 17 in the appendix).

Mixed results in the promotion of critical skills at the Grade 12 level. Three of the indicators in the Action Plan relate to the need to promote excellence and scarce skills in the Grade 12 examinations. One of these indicators involves the tracking of Grade 12 passes at the Bachelors level, meaning that matriculants have sufficiently good results across their various subjects to allow them entry into a university for the purposes of obtaining Bachelors degree. Here the overall trend has been a positive one, as seen in the following graph. The approximately 137 000 passes at the Bachelors level seen in 2012 is the highest value that the schooling system has ever seen. It is important to note that this figure draws only from the public examinations system. If one includes the results of the Independent Examinations Board (IEB), the overall figure grows by around 9 000 per year. The Action Plan indicator implicitly refers only to the public examination system, yet what occurs outside this system is of course important additional information that influences the overall critical skills situation in the country. It is worth bearing in mind that many independent schools receive public funding and that the IEB examinations are quality assured by the same public body, Umalusi, that quality assures the public examinations. The trend with regard to the other two Action Plan indicators dealing with critical skills, the number of mathematics and physical science passes, has been less favourable. As seen in the next graph, the general trend since 2008 has been a decline followed by an increase. This trend is to a large degree a manifestation of adjustments to the new examinations system introduced in 2008 and, in the case of mathematics, the new choice between mathematics and mathematical literacy. The latter subject is not illustrated in the graph. Roughly, if the current 2011 to 2012 improvements can be sustained and accelerated somewhat, it should still be possible to achieve the improvement targets set by the Action Plan (these are illustrated in the graph). In 2012, the difference between the actual and target values came to 8% for Bachelors level passes, 22% for mathematics passes and 25% for physical science passes. The provincial details for the three indicators seen in Table 13 in the appendix indicate that the national trends have been more or less replicated across all provinces, though Eastern Cape and Mpumalanga have succeeded in maintaining unusually large positive trends for physical science in the 2008 to 2012 period. With respect to levels relative to the population, Eastern Cape and Northern Cape stand out as provinces with exceptionally low recent values for all three indicators, whilst Limpopo appears to perform well in this regard (see Figure 20).

Figure 8: Critical skills and the Grade 12 examinations



Source: Official reports on examination results.
Note: The year 2007 is marked with a vertical line as this was the last year of the outgoing examinations system. 2013 is marked as this is the first future year, so from this year values indicated in the graph are Action Plan target values.

Provincial differences with respect to the overall spread of performance across grades. Figure 17 in the appendix provides a view, by province, of learner performance across several grades in recent years. One province, Limpopo, stands out for the fact that it clearly under-performs below Grade 12 (see also Figure 18), whilst the province is a relatively good performer at the Grade 12. This is a curious phenomenon that needs to be researched further. Preliminary research undertaken as part of the production of this report suggests that Limpopo succeeds at the Grade 12 level partly because learners stay on longer at school, even if this means more grade repetition. NSC candidates in Limpopo are consequently the oldest in the country. In contrast to Limpopo, two provinces do much worse at the Grade 12 level than one would expect, given their performance below Grade 12. These two provinces are Western Cape and Northern Cape.

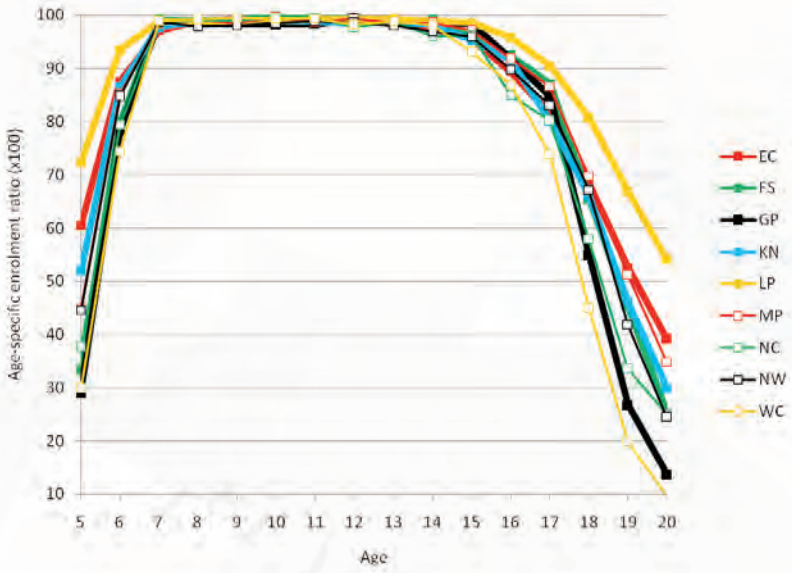
APPENDIX

This appendix provides, above all, province-level information to supplement the discussions in the main body of the report.

Enrolment and attainment trends

The following graph illustrates the extent of school enrolment by age, according to the General Household Survey (GHS). Averages across three years, 2009 to 2011, are used in order to produce more reliable statistics. The GHS sample is too small to allow for sufficiently reliable estimates by both age and province, but averages across three years are relatively stable, as can be seen in the smoothness of the curves in Figure 9. The graph illustrates the high level of coverage of the schooling system for the age range 7 to 14, and to some extent 15. What is also noteworthy is that LP displays exceptionally high levels of coverage both prior to and after this age range. In part, this reflects high levels of over-aged learners in the schools of this province. More generally, enrolment ratios for schools beyond age 16 in poorer provinces, such as LP, KN and EC, tend to be better than in the richer provinces WC and GP. This is likely to be due to greater levels of grade repetition the poorer provinces, as well as fewer opportunities outside school in terms of both employment and post-school education.

Figure 9: School enrolment ratios by age and province (2009-2011)



Source: General Household Survey datasets, years 2009 to 2011.
Note: Averages across the three years 2009 to 2011 were used improve the reliability of values, given the smallness of the sample.

Table 2 below provides school enrolment ratios for the age 7 to 15 group by province. Values are consistently high, though they do imply that there are around 100 000 out-of-school children aged 7 to 15.

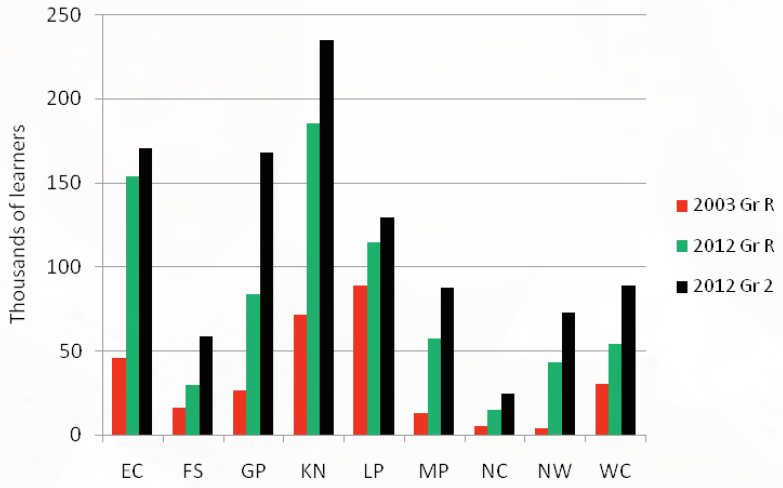
Table 2: Enrolment ratios for ages 7 to 15 (2011)

	Enrolment ratio 2011 (ages 7 to 15)
EC	98.5
FS	98.9
GP	99.3
KN	98.7
LP	99.1
MP	99.0
NC	98.6
NW	98.6
WC	97.9
SA	98.8

Source: 2011 GHS dataset.

Figure 10 below reflects progress with respect to official schools-based Grade R enrolments between 2003 and 2012 in public schools. Grade 2 enrolment in 2012 is also indicated for comparison purposes. Due to high levels of grade repetition in Grade 1, comparison of Grade R against Grade 2 is often more meaningful than comparison of Grade R against Grade 1. Clearly a large part of the overall enrolment increase in Grade R between 2003 and 2012 can be attributed to two provinces, EC and KN. In both LP and EC, Grade R enrolment levels in 2012 were close to those of Grade 2, suggesting exceptionally high levels of Grade R coverage within the public schooling system, as opposed to other types of institutions.

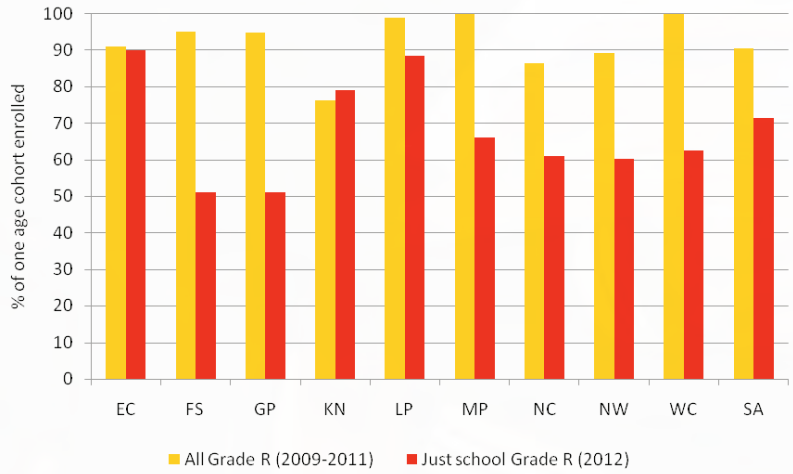
Figure 10: Progress with respect to Grade R enrolments in public schools



Source: Enrolment publications of DBE.

In the next graph, it is important to note that 'All Grade R' figures are based on GHS data and use values from three years, 2009 to 2011, to reduce confidence intervals and allow for better comparability across provinces. The particularly low total value for KwaZulu-Natal is largely the result of a low value in 2009, of 60%. If just the values for 2010 and 2011 are used, the total for this province becomes 83%. Figure 11 makes it clear that Grade R enrolment patterns differ considerably between provinces, with certain provinces, such as EC and KN, having close to all Grade R in ordinary schools also offering Grade 1, whilst other provinces, such as FS and GP, have around half of Grade R outside of ordinary schools, mostly in early childhood development (ECD) centres and stand-alone pre-primary schools.

Figure 11: Grade R enrolments in school and overall



Source: General Household Survey datasets 2009 to 2011 and enrolment publications of DBE.
Note: The 'All Grade R (2009-2011)' columns reflect the average across three years of GHS data as the smallness of the sample would make one year of data unreliable at the province level. The numerator is non-repeating Grade R learners. The denominator is the age 5 population cohort. The 'Just school Grade R (2012)' columns reflect 2012 Grade R enrolment over Grade 2 enrolment, in both public and independent schools. Grade 2 was considered a better denominator as Grade 1 is characterised by exceptionally high levels of grade repetition.

The following table provides the values for the 'All Grade R' bars from the previous graph.

Table 3: Non-repeating Grade R learners as a percentage of an age cohort (2009-2011)

	Non-repeating Grade R learners over age 5 population cohort
EC	91
FS	95
GP	95
KN	76
LP	99
MP	100
NC	86
NW	89
WC	100
SA	91

Source: General Household Survey datasets.
Note: See above discussion regarding the low KN total value.

The figures in the next table reflect improving enrolment levels for children aged 5 to 6, though the figures say nothing directly about the grade at which children were enrolled.

Table 4: Percentage of children aged 5 to 6 enrolled in an education institution

	2003	*2008*	*2011*
EC	64	86	94
FS	70	73	88
GP	70	74	89
KN	56	70	87
LP	73	85	97
MP	52	71	91
NC	48	69	87
NW	57	68	91
WC	69	70	84
SA	63	75	90

Source: General Household Survey datasets.

Table 5 below presents values relating to two Action Plan indicators. To illustrate, nationally 57.4% of learners who turned nine at any point in 2009 were enrolled in Grade 4 or a higher grade during 2010. Given that the norm is that a learner should turn seven during the year that he or she is enrolled in Grade 1, one could consider it an ideal for all learners who turned seven in one year to be enrolled in Grade 2 the next year and, by extension, for all learners who turned nine in one year to be in Grade 4 in the next year. In other words, in an ideal situation, all the indicator values in Table 5 should be 100%. The indicator values are useful because they capture the effects of both late entry into Grade 1 and grade repetition. The values are not calculated exactly in accordance with the definition put forward in the Action Plan, because they ignore the fact that some children are not in the schooling system at all. However, as this phenomenon is relatively small it would not have a large impact on the indicator values (see Table 2).

Table 5: Age-grade alignment in 2010-2012

	% of learners who turned 9 in the previous year who are currently enrolled in Grade 4 (or a higher grade).				% of learners who turned 12 in the previous year who are currently enrolled in Grade 7 (or a higher grade).			
	2010	2011	2012	Clear trend?	2010	2011	2012	Clear trend?
EC	52.6	54.2	54.2	*	35.6	36.8	36.6	
FS	53.6	53.7	53.4		35.5	37.9	38.1	*
GP	61.7	62.7	62.0		47.5	49.6	49.2	
KN	58.3	58.7	59.8	*	41.0	42.0	42.4	*
LP	66.4	60.7	63.6		42.6	42.4	45.3	
MP	60.5	59.0	58.7		39.4	39.2	40.4	
NC	53.1	55.1	53.0		31.9	35.8	35.9	*
NW	51.7	52.9	54.5	*	32.2	34.0	35.6	*
WC	54.6	55.0	54.9		37.9	41.8	41.4	
SA	57.4	57.3	58.0		39.0	40.3	40.9	*

Source: Annual Survey of Schools datasets.
Note: A clear trend is indicated with an asterisk if (a) there is a continuous increase across the three years and (b) the 2012 value is at least one percentage point higher than the 2010 value. One thing the values in the table do not take into account is learners who are, according to the Annual Survey of Schools, not enrolled in one of the regular grades in the range 1 to 12, but in some other special grade. This phenomenon is most pronounced in MP and KN. For instance, in MP of all learners enrolled at schools in 2010 who turned 9 in 2009, 3.7% were in irregular grades. The figure for KN was 2.0%. The national figure was 1.1%.

Turning to successful completion of Grade 12, the following table provides the 2008 to 2012 trend for full-time Grade 12 passes.

Table 6: Grade 12 passes per year (full-time students)

	Full-time passes, including passes from supplementary examinations					Annual trend (uses linear slope)	
	2008	2009	2010	2011	2012	Learners per year	% per year
EC	31,575	36,377	38,594	39,665	42,365	2,487	6.6
FS	22,183	21,158	19,980	20,139	20,377	-463	-2.2
GP	74,856	73,237	74,838	71,179	75,291	-119	-0.2
KN	85,721	85,605	90,576	87,837	96,696	2,418	2.7
LP	51,326	47,770	57,662	49,306	54,947	878	1.7
MP	29,254	26,990	31,083	32,364	34,744	1,635	5.3
NC	7,488	6,775	7,581	7,277	7,074	-33	-0.5
NW	23,379	21,413	22,376	20,261	22,276	-336	-1.5
WC	35,480	35,348	36,223	34,032	38,408	454	1.3
SA	361,262	354,673	378,913	362,060	392,178	6,922	1.9

Source: Official DBE reports on results after supplementary examinations.

The next table provides statistics on what has been an under-reported area, namely part-time Grade 12 examination students. Figures here refer to 2010, but similar patterns can be expected to be found in other years in the period 2008 to 2012, a period which has seen an unprecedentedly high number of part-time examination candidates (see Table 2).

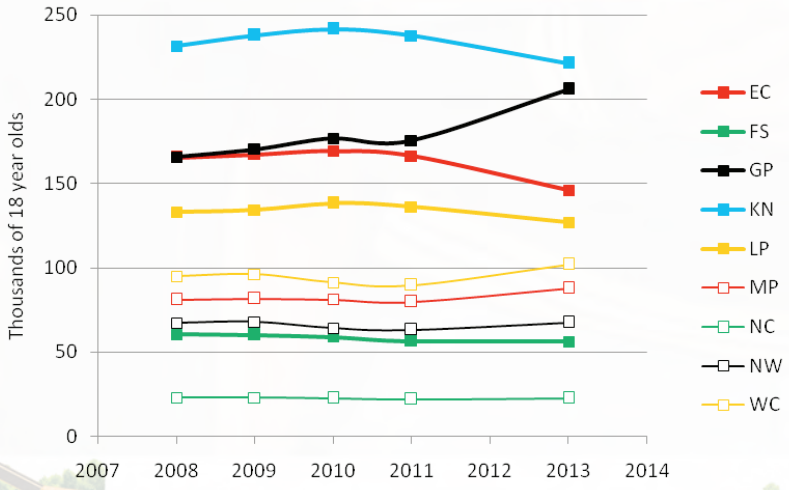
Table 7: Statistics on part-time Grade 12 examination students (2010)

	Full-time candidates	Part-time candidates	% of candidates who are part-time	Average subjects passed by part-time students	Total centres with part-time students	Public ordinary schools with part-time candidates	% of all part-time candidates writing at an ordinary school
EC	68,467	11,346	14	0.6	108	29	4
FS	28,228	2,068	7	0.5	228	216	99
GP	94,386	22,776	19	1.0	455	305	28
KN	133,168	20,677	13	0.8	1,347	1,292	89
LP	95,897	9,930	9	0.4	277	0	0
MP	54,654	5,090	9	0.4	350	336	97
NC	10,416	1,382	12	0.5	103	98	87
NW	29,609	2,712	8	0.9	201	188	49
WC	47,078	6,220	12	0.6	355	309	85
SA	561,903	82,201	13	0.7	3,424	2,773	50

Source: Student records in the 2010 examinations dataset.

The next graph provides number of 18 year olds per province and year, based on Stats SA official mid-year population estimates. Stats SA's estimates are important, partly because to some extent they determine the inter-provincial spread of national revenue. They are also important for interpreting the number of Grade 12 passes produced by the schooling system. The fairly large changes between 2011 and 2013 in the population estimates would reflect revisions made by Stats SA following the 2011 national census. The changes reflected in the graph for the 2011 to 2013 period are greater than 10% in GP and WC (both positive) and EC (negative). Table 8 provides the figures used for the graph.

Figure 12: Youths aged 18 based on official Stats SA estimates



Source: Mid-year population estimates of Stats SA. No estimates were published by Stats SA for 2012.
Note: Derivation of 18 year old youths using the five-year age bins of Stats SA occurred by applying Sprague coefficients, as explained in Châu (2003).

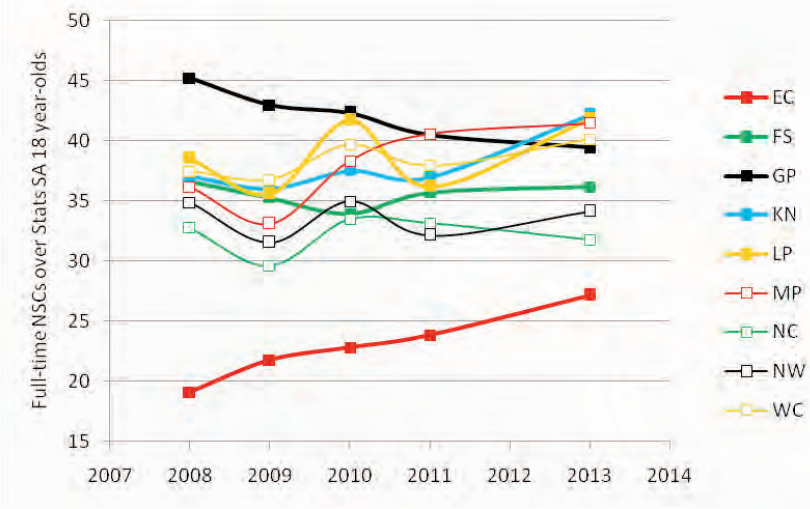
Table 8: Number of 18 year olds per province

	2008	2009	2010	2011	2013
EC	165,329	167,182	169,306	166,438	145,859
FS	60,572	60,022	58,918	56,451	56,247
GP	165,684	170,431	176,857	175,663	206,067
KN	231,527	237,997	241,648	237,587	221,428
LP	133,217	134,206	138,268	136,204	126,763
MP	80,901	81,602	81,165	79,820	87,739
NC	22,852	22,898	22,651	21,967	22,594
NW	67,043	67,867	64,008	63,072	67,477
WC	94,781	96,142	91,234	89,713	101,869
SA	1,021,906	1,038,347	1,044,057	1,026,916	1,036,043

Source: See Figure 12.
Note: As discussed elsewhere in this report, the above figures display anomalies when compared to official enrolment figures which suggest that the above figures are substantially higher than they should be.

Despite relatively large provincial shifts, nationally the change has been small. The total row of the above table reflects a positive linear trend that is just 0.1% per year.

Figure 13: Full-time NSCs over one youth age cohort

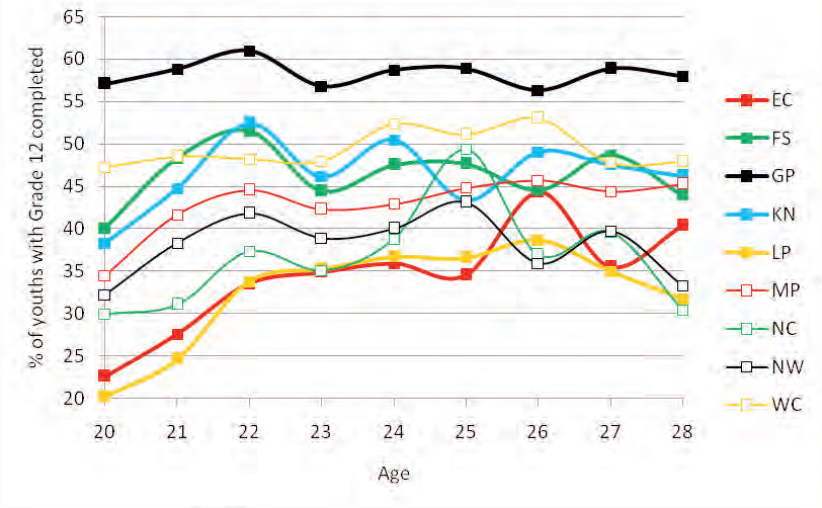


Source: See Table 6 and Figure 12.

Figure 13 above needs to be interpreted with care as for the trends to be right, population figures must be right. There is probably a positive trend in EC, because the number of Grade 12 passes has been increasing (see Table 6) and it seems unlikely that the population would have *increased* during the period in question. The very sharp decline in Grade 12 passes over the age 18 population in cohort in GP could, however, simply be a reflection of the fact that population figures for 2008 to 2011 were under-estimates. Yet Figure 13 reflects one attempt to arrive at values for an important basic education indicator. It will be argued below that the data probably do not allow us to establish very clear *trends* at the province level, though this seems possible at the national level, and moreover that the *levels* reflected in Figure 13 are in general too low. If the data reflected in Figure 13 are used at a national level, the overall trend is an improvement of around 0.8 percentage points a year. This trend seems to be more or less plausible, even if the national levels, for instance an indicator value of 38% in 2011 (not shown in the graph), is probably not plausible, as argued below.

The following graph provides a view on the successful completion of Grade 12, but using completely different data. Here GHS data across three years are used to determine the percentage of youths with Grade 12 at various ages, by province. The question in the survey form is 'What is the highest level of education that … has successfully completed?'. Respondents choose one of 26 categories. By selecting the options which imply that the respondent would have to have at least a Grade 12 pass, it is possible to obtain the statistics in the graph. Assuming that the attainment of Grade 12 is improving over time, which appears to be the case, the peak of each curve should represent a minimum for the percentage of youths who are likely to eventually obtain the NSC. The peaks in the curves in Figure 14 are clearly higher than the levels seen in Figure 13. Closer analysis reveals that the levels in the following graph are probably too *high,* the most likely reason being that some respondents claim to have successfully completed Grade 12 when they just participated in Grade 12, without passing the examination.

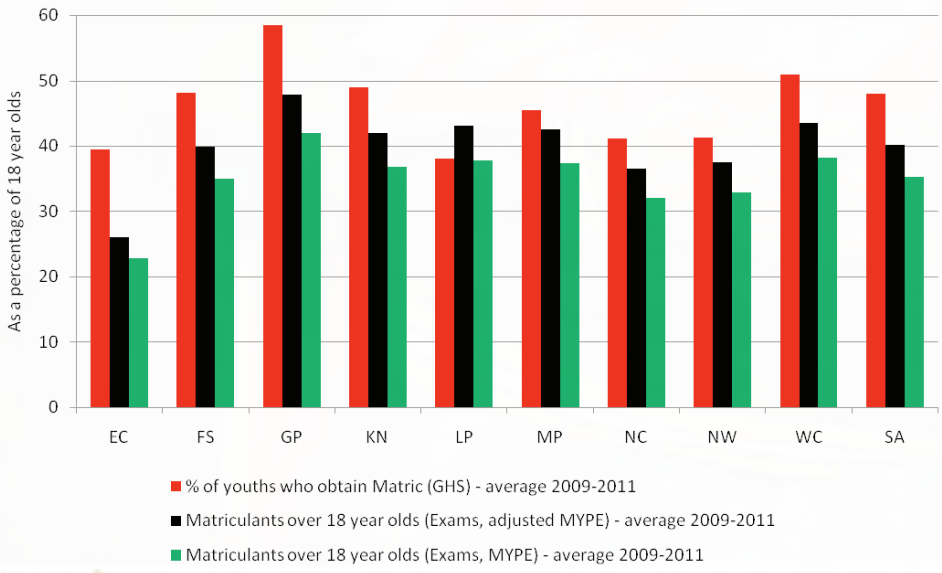
Figure 14: Youths having completed Grade 12 (2009-2011)



Source: General Household Survey datasets.
Note: Each point in the graph is the average across the three points for 2009 to 2011.

The next graph illustrates the average percentage of youths with Grade 12 in the years 2009 to 2011 using three approaches. The red bars reflect more or less the peaks in Figure 14. The green bars reflect the average across the three years from Figure 13. The black bars reflect an approach similar to that of the green bars, but where population has been adjusted downwards by a margin that analysis of discrepancies between enrolment and population figures suggested was necessary[12]. The patterns across the three bars for each province are atypical in the case EC and LP. In EC it is possible that youths are obtaining their Grade 12 pass in another province and then returning home. This could explain the large difference between the percentage of youths with Grade 12 (red bar) and passes emerging from EC schools as a percentage of a youth population cohort (the other two bars). In LP, it is possible that high levels of out-migration occur amongst youths who have completed their Grade 12 studies at school.

Figure 15: Matriculants relative to population using various data sources



Sources: General Household Survey (GHS) datasets; official DBE Grade 12 examinations reports (with supplementary results included); mid-year population estimates (MYPE) of Statistics South Africa.
Note: Here 'Matriculants' means full-time Grade 12 learners who obtain the NSC. The first (red) bar values were obtained by deriving a quadratic trendline on the curves in Figure 14 and then finding the maximum point on each curve.

The following table indicates the values used for the previous graph. The values in the middle column can arguably be considered the most plausible. It is important to note that the 40.2% figure for the country would need to be inflated by around one percentage point to include the approximately 10 000 youths who obtain the NSC through the Independent Examinations Board (IEB) and by a further one percentag points to take into account the approximately 7 000 youths per year who are obtaining the NSC in the public system but as part-time students (see Table 1).

12 See Gustafsson (2012).

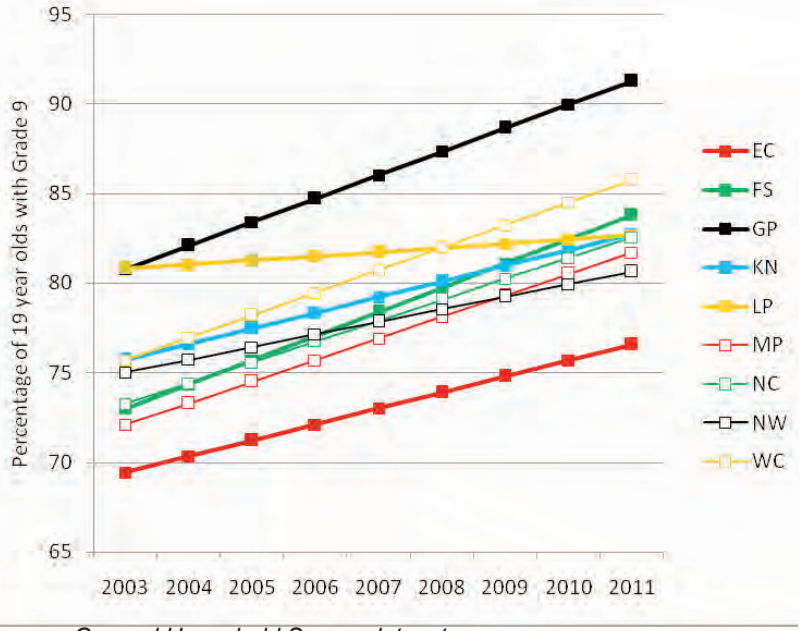
Table 9: Matriculants relative to population using various data sources

	% of youths who obtain Matric (GHS) - average 2009-2011	Matriculants over 18 year olds (Exams, adjusted MYPE) - average 2009-2011	Matriculants over 18 year olds (Exams, MYPE) - average 2009-2011
EC	39.4	26.0	22.8
FS	48.2	39.8	34.9
GP	58.5	47.8	41.9
KN	49.0	42.0	36.8
LP	38.0	43.2	37.8
MP	45.4	42.5	37.3
NC	41.2	36.5	32.1
NW	41.3	37.5	32.9
WC	50.9	43.4	38.1
SA	48.0	40.2	35.2

Source: See Figure 15.

Figure 16 below illustrates the general trend with respect to the attainment of Grade 9 at the province level. There are clear differences with respect to levels, for instance Grade 9 attainment in LP is much better than in EC. The trend has been similar for all provinces except for LP, which has seen its relative advantage 2003 become eroded over time.

Figure 16: Grade 9 attainment of 19 year olds



Source: General Household Survey datasets.
Note: Lines are trendlines across the nine annual points.

Learner performance

The provincial TIMSS results presented in the next table should be read with care as confidence intervals at the province level are large in TIMSS, especially for 2002. For instance, the 2002 KN confidence interval at the 5% level of significance ranges from 255 to 301. Yet the improvements were large enough for the confidence intervals not to overlap for the two years in the case of all provinces other than NC and WC. In other words, we can be highly certain that improvements occurred in all these other provinces, but we cannot be sure what the trend was in NC and WC.

Table 10: TIMSS Grade 9 mathematics means by province

	2002	2011	Difference
EC	250	316	66
FS	291	359	68
GP	303	389	86
KN	278	337	59
LP	244	322	78
MP	287	344	57
NC	340	366	26
NW	280	350	70
WC	414	404	-10
SA	285	352	67

Source: Reddy, Prinsloo, Arends and Visser (2012).
Note: Provincial statistics and the 2002 national statistic all exclude independent schools. Only the 2011 national statistic includes independent schools. Without these schools, that statistic would drop to 348.

Average scores in the SACMEQ 2000 and 2007 mathematics and language tests are provided below.

Table 11: SACMEQ 2000 and 2007 averages by province

	Mathematics		Language	
	2000	2007	2000	2007
EC	449	470	444	448
FS	448	493	446	491
GP	552	545	576	573
KN	510	485	517	486
LP	446	448	437	426
MP	433	477	428	474
NC	461	499	470	506
NW	420	503	428	506
WC	591	566	629	583
SA	486	495	492	495

Source: Moloi and Chetty (2011: 6).

Results from the Annual National Assessments (ANA) programme for 2012 can generally be considered more reliable than the 2012 results, in particular as far as the ranking of EC is concerned. The 2012 figures for the Action Plan indicators, namely the percentage of learners performing at the 'required' level in specific grades and subjects, are provided below. For all the subjects in the table, a 50% score was considered a minimally acceptable level.

Table 12: Percentage of learners achieving 50 in ANA in 2012

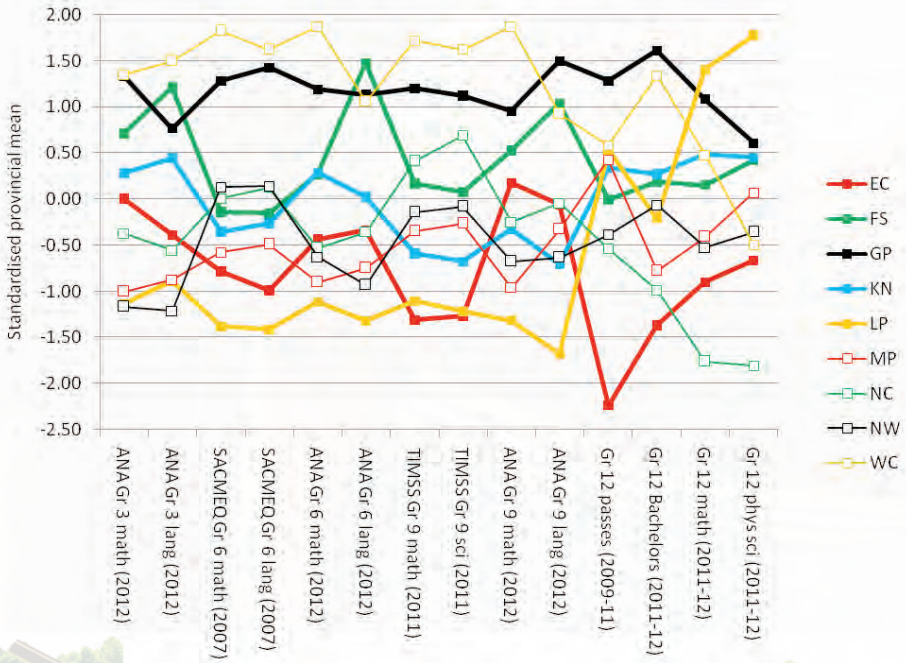
	Grade 3		Grade 6		Grade 9	
	Math.	Lang.	Math.	Lang.	Math.	Lang.
EC	35	53	8	29	3	36
FS	42	65	12	57	3	49
GP	48	62	16	52	4	54
KN	38	59	12	35	2	28
LP	24	49	5	15	1	17
MP	25	49	6	23	1	33
NC	31	51	8	29	2	36
NW	23	46	7	20	1	29
WC	48	67	20	50	5	47
SA	36	57	11	39	2	39

Source: Official ANA report of the Department of Basic Education.
Note: Language results are all for the home language subject, not the first additional language subject.

Despite some apparent improvement in the ANA measures between 2011 and 2012, ANA results must still be interpreted with much caution. Problems with the comparability of the ANA aggregates can be seen on a number of levels. Certain provincial scores are too far above or below what one would expect, given for instance SACMEQ results. Thus the exceptionally high FS value for language in Grade 6 in the above table cannot be taken at face value. The NW values for Grade 3 are much lower than other data sources would predict (see Figure 17). The extremely low values in the previous table for Grade 9 mathematics are not in line with what TIMSS 2011 found. TIMSS results suggest that at least 10% of learners can be considered to have surpassed a minimum threshold. The 11% passing mathematics in Grade 6 seen in the above table is also much lower than what SACMEQ 2007 suggested should be the case in Grade 6. Performance thresholds developed internationally as part of the SACMEQ process suggest that the figure could be 60%, as opposed to the 11% seen in Table 12[13]. Differences between the 2011 and 2012 ANA values also point to problems in using ANA to draw conclusions on trends over time. For instance, the Grade 3 mathematics average score (not percentage of learners passing) at the national level moved from 28 to 41. Given that the standard deviation across learners in 2011 was 20 percentage points, the improvement of 13 points (41 minus 28) represents 0.65 of a standard deviation, a much larger improvement than is possible if one considers 0.08 of a standard deviation as the best possible (see earlier discussion). The 0.08 standard deviations threshold suggests that one should not expect improvements larger than around 1.6 points per year in the ANA mean for Grade 3 mathematics. The corresponding improvement thresholds for other grades and subjects would be similarly small.

The next graph provides an overview of the relative performance of all provinces in a recent year in terms of the indicators of the Action Plan, or statistics closely associated with these indicators. The comparison permitted by the graph points to certain anomalies that are probably the result of measurement error, for instance the exceptionally high value for FS in the case of the Grade 6 ANA results. But there are also important real trends that emerge from the graph, such as the stark difference in the case of LP between performance below Grade 12 and at the Grade 12 level. The data behind the LP Grade 12 results were checked and it seems to be a reality that LP is a relatively good performer at the Grade 12 level, despite its exceptionally poor results in the earlier grades. Importantly, all the Grade 12 values are calculated with respect to the population, in one way or another, so the explanation is not that LP simply excludes weaker learners at the Grade 12 level. A further trend worth noting is that WC does worse at the Grade 12 level, relative to its performance at the lower grades. The same can be said of NC.

Figure 17: Overall view of learner performance by province

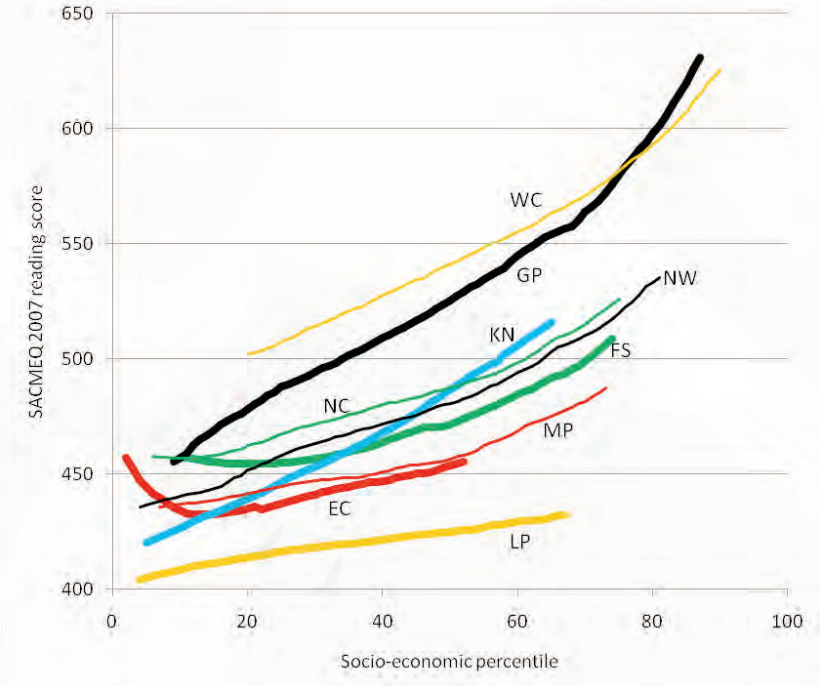


Note: All the points in the graph are derived from statistics appearing in tables elsewhere in this report. The one exception is the Grade 9 TIMSS science averages, which are from Reddy et al (2012).
Note: For each indicator, provincial values were normalised so that the mean across values is zero and the standard deviation is 1.0.

The next two graphs compare learner performance by province against other variables, the socio-economic status (SES) of learners in the case of Figure 18 and teacher performance in tests similar to those written by learners, in the case of Figure 19. Both graphs make use of the SACMEQ 2007 data. Figure 18 shows that there is a clear correlation between socio-economic status and learner performance. Learners from more disadvantaged households tend to perform worse at school, hence each provincial curve slopes upward as one moves to the right. However, there are important differences across provinces. For instance, poor learners in LP perform considerably worse than equally poor learners in, say, NW. This suggests that the exceptionally poor educational performance in LP is at least partly about the way the province goes about delivering education services at the Grade 6 level.

13 See Moloi and Chetty (2011: 7).

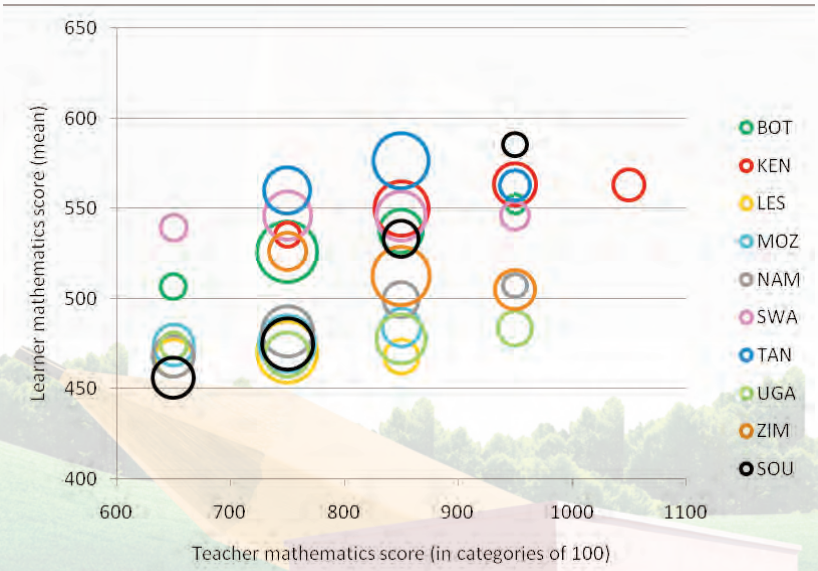
Figure 18: Relationship between reading and SES across provinces



Source: SACMEQ III dataset (2007).
Note: Percentiles 1 to 20 represent the poorest one-fifth (or quintile) of learners, percentiles 21 to 40 represent the next poorest one-fifth, and so on. Socio-economic status is based on assets in the home reported by learners. Within each province, the curve excludes the left-hand 5% of the SES range and the top 30% in order to exclude outliers and focus on the more disadvantaged. Smoothing of curves occurs using lowess smoothing.

The following graph illustrates the relationship between teacher and learner scores across ten of the countries participating in SACMEQ. The area of the circles in the graph show, for instance, that a particularly large percentage of South African teachers obtained a score of between 700 and 800 in mathematics (the actual percentage of teachers is 39%). The average mathematics score of the learners taught by these teachers was 475. It is clear that in a number of other countries a large percentage of teachers fell into the same test score range of 700 and 800. This can be said for Tanzania, Swaziland, Botswana, Lesotho and Namibia. Yet it is clear that the learners taught by these teachers performed better in Tanzania, Swaziland and Botswana, compared to South Africa, Namibia and Lesotho. What this suggests is that whilst improving teacher knowledge must be a priority, it is also important to focus on better ways of making use of the existing levels of teacher knowledge, through for instance more effective school management.

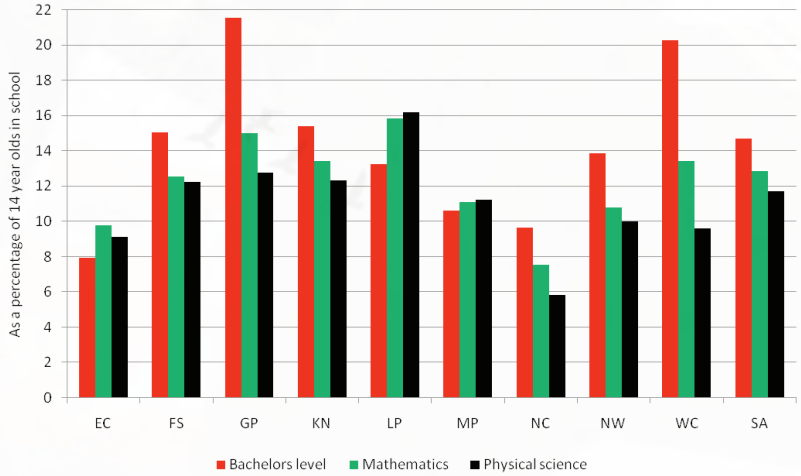
Figure 19: Relationship between learner and teacher test scores in SACMEQ



Source: SACMEQ III dataset (2007).
Note: Teachers were grouped according to their test scores for the purposes of this graph. For instance, teachers with scores from 700 and less than 800 are pegged at the 750 level on the horizontal axis, those with scores from 800 and less than 900 are pegged at the 850 level, and so on. The area of the circles is in proportion to the percentage of learners in the country taught by these teachers.

Turning to the quality of outcomes at the Grade 12 level, the following graph presents achievements by province in terms of three indicators: learners obtaining a Bachelors level pass, learners passing mathematics, and learners passing physical science. Here, in order to circumvent the problems discussed above with population estimates, in particular population estimates at the provincial level, indicator values are viewed relative to the number 14 year olds in schools according to the 2011 Annual Survey of Schools. This latter figure can be considered reliable and is arguably an optimal indicator of the size of a youth age cohort. Age 14 is chosen because this is the last age at which the schooling system has virtually universal coverage. The graph shows that the opportunities youths have for developing critical skills varies to a large degree by province. The best province often displays a situation that is twice that of the weakest province. For instance, learners with a Bachelors level pass as a percentage of 14 year olds ranges from 22% in GP to 10% in NC. The figures for mathematics range from 15% for GP to 8% in NC. In the case of WC there seems to be a physical science problem in the sense that passes in this subject are particularly low relative to the passes in mathematics.

Figure 20: Youths displaying critical skills in Grade 12 examinations (2011-2012)



Source: Published examinations reports (see Table 13) and 2011 Annual Survey of Schools.
Note: Examination results are the averages across 2011 and 2012.

The next table provides the numerator values used in the previous graph, as well as growth statistics in percentage terms and in terms of additional learners per year.

Table 13: Grade 12 critical skills statistics (full-time students)

						Annual trend (uses linear slope)	
	2008	2009	2010	2011	2012	Learners per year	% per year
Passes at the Bachelors level							
EC	8,666	9,492	10,296	10,305	11,506	649	6.5
FS	6,286	6,030	5,863	6,854	7,008	227	3.5
GP	28,235	28,709	31,719	30,342	32,681	1,053	3.5
KN	24,656	26,287	31,826	27,826	35,011	2,225	7.6
LP	10,628	10,202	14,837	12,997	15,361	1,226	9.6
MP	5,335	6,556	8,275	8,898	9,516	1,070	13.9
NC	1,993	1,741	2,164	2,052	2,093	51	2.5
NW	6,333	6,356	8,068	7,224	7,512	323	4.5
WC	14,512	14,324	14,524	15,407	16,563	519	3.4
SA	106,644	109,697	127,572	121,905	137,251	7,342	6.1

						Annual trend (uses linear slope)	
Mathematics passes							
EC	13,839	16,206	14,457	12,752	14,114	-290	-2.0
FS	11,426	7,066	5,321	5,395	6,167	-1,219	-17.2
GP	27,541	26,503	23,839	20,027	23,899	-1,376	-5.6
KN	36,030	33,247	31,407	24,284	30,408	-2,021	-6.5
LP	18,548	19,810	19,469	15,618	18,346	-460	-2.5
MP	9,578	9,612	10,007	9,199	9,998	43	0.4
NC	1,925	1,760	1,898	1,656	1,572	-81	-4.6
NW	8,056	7,124	6,782	5,282	6,160	-563	-8.4
WC	13,002	12,524	11,571	9,820	11,306	-610	-5.2
SA	139,945	133,852	124,751	104,033	121,970	-6,577	-5.3
Physical science passes							
EC	11,119	8,716	11,753	12,123	12,911	699	6.2
FS	7,870	4,789	4,656	5,466	5,820	-342	-6.0
GP	25,998	16,912	18,777	17,069	20,335	-1,117	-5.6
KN	26,774	19,822	23,856	23,516	26,783	371	1.5
LP	18,022	12,658	16,328	16,079	18,566	451	2.8
MP	9,667	5,987	8,352	9,025	10,426	456	5.2
NC	1,917	1,038	1,352	1,173	1,324	-105	-7.7
NW	8,768	4,594	5,662	4,853	5,769	-574	-9.7
WC	9,688	7,074	7,524	7,137	7,984	-335	-4.2
SA	119,823	81,590	98,260	96,441	109,918	-496	-0.5

Source: Official DBE examination reports.
Note: All figures refer to full-time students. The Bachelors level figures include supplementary examination results, whilst the mathematics and physical science figures do not, due to difficulties in obtaining the relevant province-level statistics. Had the statistics been available, the differences in this table would not have been large. At the national level, in 2012 the supplementary examinations added 0.5% to the number of mathematics passes and 0.9% to the number of physical science passes.

INDICATOR TABLE

The table beginning on the next page sums up the situation with respect to the educational outcome indicators specified in the Action Plan, many of which also appear in the Delivery Agreement. The main numbering of the indicators follows the numbering of the Action Plan. Indicators which are also prioritised in the Delivery Agreement are marked with an asterisk (*).

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
1.1.* Percentage of Grade 3 learners performing at the required *literacy* level according to the country's Annual National Assessment.	According to the 2012 wave of the Annual National Assessments (ANA), 57% of learners obtained an 'adequate' score for home language. An adequate score is 50 or more out of 100 in the test. Comparisons across provinces with respect to this indicator need to be made with care. Certain provincial averages are in line with what is seen in more rigorously standardised assessments, such as SACMEQ. For instance, results in WC and GP are relatively good whilst those for LP are relatively weak. However, the exceptionally low average for NW could be due to measurement error (see Table 12 and Figure 17).	For 2012, the target value for this indicator was 55%, according to the Action Plan. The actual value was thus slightly above the target value. However, for several of the other ANA indicators discussed below, actual performance was well below the target value. The large movements in the provincial ANA values between 2011 and 2012 indicate that any comparison of ANA scores should be undertaken with much care (see discussion following Table 12). This also applies to comparisons between actual and target values. Gaps between actual and target values at this stage should thus not necessarily be seen as reliable indications of which grades and subjects are stronger or weaker.	Programmes such as ANA typically require several years of trial and error before they stabilise and are able to produce highly comparable statistics. A number of enhancements need to occur. Tests in different years can be made more comparable through better use of anchor items, and the test administration, marking and moderation processes are all in need of strengthening. The current ANA reform process is pointing towards the need to rely to a greater extent on the sample-based verification ANA for the calculation of provincial statistics. In 2012, there was no verification ANA.
1.2. Percentage of Grade 3 learners performing at the required *numeracy* level according to the country's Annual National Assessment.	According to the 2012 wave of the Annual National Assessments (ANA), 36% of learners obtained an 'adequate' score for mathematics. See the comments for indicator 1.1.	The actual value of 36% for this indicator for 2012 compares to an Action Plan target of 55%. This gap needs to interpreted with caution. See the comments for indicator 1.1.	See the comments for indicator 1.1.
2.1. Percentage of Grade 6 learners performing at the required *language* level according to the country's Annual National Assessments.	According to the 2012 wave of the Annual National Assessments (ANA), 39% of learners obtained an 'adequate' score for home language. See the comments for indicator 1.1.	The actual value of 39% for this indicator for 2012 compares to an Action Plan target value of 51%. This gap needs to interpreted with caution. See the comments for indicator 1.1.	See the comments for indicator 1.1.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
2.2. Percentage of Grade 6 learners performing at the required *mathematics* level according to the country's Annual National Assessments.	According to the 2012 wave of the Annual National Assessments (ANA), 11% of learners obtained an 'adequate' score for mathematics. See the comments for indicator 1.1. The 11% figure obtained in ANA contrasts with the finding from the 2007 run of SACMEQ that 60% of Grade 6 learners achieved at a 'basic' level (see discussion following Table 12). It appears as if the 11% figure is an under-estimate.	The actual value of 11% for this indicator for 2012 compares to an Action Plan target value of 44%. This gap needs to interpreted with caution. See the comments for indicator 1.1.	See the comments for indicator 1.1.
3.1. Percentage of Grade 9 learners performing at the required *language* level according to the country's Annual National Assessments.	According to the 2012 wave of the Annual National Assessments (ANA), 39% of learners obtained an 'adequate' score for home language. See the comments for indicator 1.1.	The actual value of 39% for this indicator for 2012 compares to an Action Plan target value of 60% for 2014 (no target value for 2012 was set in the Action Plan). This gap needs to interpreted with caution. See the comments for indicator 1.1.	See the comments for indicator 1.1.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
3.2.* Percentage of Grade 9 learners performing at the required *mathematics* level according to the country's Annual National Assessments.	According to the 2012 wave of the Annual National Assessments (ANA), 2% of learners obtained an 'adequate' score for mathematics. See the comments for indicator 1.1. Moreover, it is noteworthy that the 2003 wave of the Trends in International Mathematics and Science Study (TIMSS) found that 6% of South Africa's Grade 8 learners achieved at an 'intermediate international benchmark' whilst 10% achieved at a 'low international benchmark'. The corresponding figures for TIMSS Grade 9 results (which are available for 2003 and 2011) are difficult to estimate as one is using a Grade 8 benchmark for Grade 9 learners, but what is clear is that achievement of particular benchmarks has improved over time, off a low base. For instance, the percentage of Grade 9 learners attaining the low benchmark moved from 6% to 15% between 2003 and 2011. It appears as if the standards applied in South Africa's ANA in Grade 9 mathematics in 2012 were more stringent than standards applied in the international TIMSS programme. The level of achievement is undoubtedly low in South Africa, but ANA 2012 has probably over-stated the problem, at least for Grade 9 mathematics. This is not surprising, given the newness of ANA in Grade 9.	The actual value of 2% for this indicator for 2012 compares to an Action Plan target value of 60% for 2014 (no target value for 2012 was set in the Action Plan). This gap needs to interpreted with much caution. It should be noted that according to TIMSS, mathematics improvement at the Grade 9 level improved markedly, albeit off a low base, between 2003 and 2011. See the notes for indicator 9 below.	See the comments for indicator 1.1.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
4.* Number of learners who become eligible for a Bachelors programme in the public national examinations.	The 2012 Grade 12 examination cycle produced around 137 000 Matriculants with a Bachelors level pass (Table 13). This was the highest level ever seen. In 2008, when the new NSC was introduced, around 107 000 Grade 12 learners obtained a Bachelors level pass. If all Bachelors level passes in the country are considered, including those of Independent Examinations Board (IEB) students, the annual figure rises typically by around 9 000. EC, LP and NC are provinces where the number of Bachelors level passes are particularly low, relative to the population (Figure 20).	The 2008 to 2012 trend has been an average annual increase of 6,1% (see Table 13). This is in the context of an extremely low increase in the youth population of only around 0.1% per annum. Even before 2008, there had been a continual upward trend in the indicator (see Figure 8). Yet the improvements fall short of the Action Plan targets. For instance, the 2012 actual figure is 8% below the target of 149 000. Growth in terms of this indicator has occurred in all provinces, though provinces with a lower starting point have tended to see more growth. MP has seen exceptionally strong growth of 13,9% a year.	See the comments for indicator 13.1 relating to the need for more systematic reporting around IEB and public part-time results. The figures referred to in this row exclude part-time results, which would not change the figures substantially.
5. Number of Grade 12 learners passing *mathematics*.	The number of Grade 12 mathematics passes per year in the public examinations has fluctuated considerably, from around 140 000 in 2008, to 104 000 in 2011, to 122 000 in 2012 (Table 13). These fluctuations are largely due to the adjustment to the new examination system and the choice between mathematical literacy and mathematics that was created in 2008. Relative to the population, mathematics passes have been high in GP and LP, but low in EC and NC (Figure 20).	The overall trend in the 2008 to 2012 period has been a negative one. In 2012, the number of mathematics passes was 22% below the Action Plan target value. However, between 2011 and 2012 there was an improvement that reduced the gap between the target and actual values, from 25% to 22%. The 2011 to 2012 improvement is roughly compatible with the trajectory of targets beyond 2012 (see Figure 8).	See the comments for indicator 13.1 relating to the need for more systematic reporting around IEB and public part-time results. The figures referred to in this row exclude part-time results, which would not change the figures substantially, and they exclude IEB results, which were not intended to be counted within this indicator (though they constitute important additional information).

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
6. Number of Grade 12 learners passing *physical science*.	The number of physical science passes per year in the public examinations has, like the mathematics passes, fluctuated considerably, from around 120 000 in 2008, to 82 000 in 2009, to 110 000 in 2012 (Table 13). Relative to the population, physical science passes have been high in LP, but low in EC and NC (Figure 20).	The overall 2008 to 2012 trend has been far less negative than the mathematics one (Table 13). In 2012, however, the actual value was 26% below the target value. As in the case of mathematics, the 2011 to 2012 improvement is roughly compatible with the trajectory of targets beyond 2012 (see Figure 8).	Comments made for Indicator 6 apply here too.
7. Average score obtained in Grade 6 in *language* in the SACMEQ assessment.	The last wave of testing of the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) gave South Africa an average score for language of 495 (the average across all learners in participating countries is 500 and the standard deviation 100). This placed South Africa 11th out of 15 countries in the region, in other words at a level clearly below South Africa's potential. South Africa's average of 492 in 2000 is considered too close to the 495 of 2007 to allow for the identification of a statistically significant improvement. Provincial values are given in Table 11.	Action Plan targets are premised on the 2007 values being the 2009 baseline values. Whether the target values will be reached will become clear when the results of the SACMEQ 2014 testing are released, possibly in 2015 or 2016 (this reflects the kinds of lags between testing and publication of results seen in the past).	SACMEQ is already a widely respected monitoring programme that has informed, amongst other things, the design of ANA. A key improvement is the development of new SACMEQ tests for the 2012-2014 testing cycle. In 2000 and 2007 the same tests were used. The new tests will be made comparable to the previous tests through anchor items.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
8.* Average score obtained in Grade 6 in mathematics in the SACMEQ assessment.	The last wave of testing of SACMEQ gave South Africa an average score for mathematics of 495 (the average across all learners in participating countries is 500 and the standard deviation 100). This placed South Africa eighth out of 15 countries in the region, in other words at a level clearly below South Africa's potential. South Africa's average of 486 in 2000 is considered too close to the 495 of 2007 to allow for the identification of a statistically significant improvement. Provincial values are given in Table 11.	Trends in other countries between the 2000 and 2007 waves of SACMEQ provide an indication of the kinds of improvements that should be possible in South Africa. Where South Africa's mathematics average increased by 9 points (486 to 495), Namibia's increased by 40 points (431 to 471) and Swaziland's increased by 24 points (517 to 541).	See comment in the above row.
9. Average Grade 8 mathematics score obtained in TIMSS.	For TIMSS 2011 it was decided, in South Africa but also two other countries, to test Grade 9 and not Grade 8, given the low results obtained in Grade 8 in previous waves of TIMSS. Fortunately, in 2002 when TIMSS was last run in South Africa, both grades 8 and 9 were tested, meaning it was possible to compare Grade 9 learners in 2002 to those in 2011. For public schools, the Grade 9 TIMSS mean for mathematics was 285 in 2002 and 348 in 2011. This is a large improvement, about as large as can be expected if one examines improvements that have occurred in other countries. The 2002 to 2011 trend in TIMSS is an encouraging sign for South Africa, even though in 2011, performance remains low relative to that in other countries. If independent schools are counted in 2011, the national average becomes 352. Provincial results are provided in Table 10.	What is particularly encouraging is that the TIMSS performance improvement has occurred whilst the percentages of youths participating in and completing Grade 9 have also improved, and youths have reached Grade 9 at a slightly younger age. The Action Plan targets were set for Grade 8 and not Grade 9, yet it is clear that the 2011 Grade 9 results point to a pace of improvement which, if maintained, will take South Africa to the targeted status in 2025, namely that of the best performing developing countries in around 2007, such as Uruguay and Tunisia.	Whilst TIMSS is a rigorous monitoring programme and the data can be considered reliable, what is needed is better use of the rich TIMSS dataset amongst South African researchers to better understand how the 2002 to 2011 improvement was realised.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
10. Percentage of 7 to 15 year-olds attending education institutions.	Values continue to be high across all provinces, in no case below 97.9% according to the 2011 General Household Survey. The national value was 98.9% in 2011 (see details in Table 2).	For the last decade or so this figure has remained close to 100%. The fact that it has not reached 100% means that around 100 000 children of compulsory school-going age remain outside school.	The Learner Unit Record Information Tracking System (LURITS) is expected provide better information on which learners drop out of school on a permanent or temporary basis. This will make it easier to target interventions aimed at retaining learners in the system.
11.* The percentage of Grade 1 learners who received Grade R.	The General Household Survey (GHS) indicate that for the years 2010, 2011 and 2012 approximately 87%, 92% and 94% of new entrants into Grade 1 would have received Grade R. The 2009 baseline figure of 80% published in the Action Plan released in 2012 was based just on Annual Survey of Schools (ASS) data and in the light of GHS data was probably an under-estimate, presumably related to the fact that non-school Grade R is not adequately counted in the ASS. Provincial figures range from around 80% in the case of KN to over 90% in six of the provinces – see Table 3.	There has clearly been progress according to not just the household data, but also official enrolment figures. The figure of 94% for 2012 is above the 92% target published in the Action Plan.	The ASS questionnaire is being reviewed to ensure that definitions of Grade R are adequately dealt with.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
12.1. The percentage of children who turned 9 in the previous year and who are currently enrolled in Grade 4 (or a higher grade).	The national value for this indicator would have been very slightly below 58.0% in 2012. It would be around one percentage point below the 58.0% seen in Table 5 because the Table 5 values do not take into account out-of-school children. Provincial figures for 2012 range from 53.0% in NC to 62.0% in GP. The baseline figures for this indicator for 2009 published in the Action Plan are undoubtedly less reliable than the figures presented in Table 5. The Action Plan values, 59.0% at the national level in 2009, were based on household data that allowed for far less precision than the Annual Survey of Schools (ASS) datasets starting in 2010, when a new way of classifying learners by age was introduced.	For this indicator progress at the national level, if it exists at all, has been slow. The Action Plan envisages improvements of around one percentage point per year. Improvement has occurred nationally at about a quarter of that pace.	Measurement of this indicator seems adequate for now, following the change in the Annual Survey of Schools in 2010 from age on survey day to year of birth. The ideal would still be to measure this indicator using household data, in order to properly cater for out-of-school children, but as the out-of-school phenomenon is small and as sample-based household surveys result in large confidence intervals, it seems optimal to rely on the ASS.
12.2. The percentage of children who turned 12 in the previous year and who are currently enrolled in Grade 7 (or a higher grade).	The national value for this indicator would have been very slightly below 40.9% in 2012. Provincial values ranged from 35.6% for NW to 49.2% for GP. GP is clearly a good performer with respect to both of the age-grade indicators (see comments in previous row). Importantly, the very different 2009 values for this indicator in the Action Plan, for instance 46% at the national level, should be discarded in favour of the values seen in Table 5. The General Household Survey seems to have been a particularly weak source for this indicator.	Progress against this indicator is relatively strong, at just under one percentage point a year. This is more or less the pace of improvement envisaged in the Action Plan. This suggests that issues such as grade repetition are being resolved more effectively at the intermediate phase than the foundation phase.	See comments above.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
13.1. The percentage of youths who obtained a National Senior Certificate from a school.	Depending on the data source used, values for this indicator can vary greatly. However, careful consideration of the data points to a national average of around 42% for the period 2009 to 2011. The 42% can be broken down to the 40% accounted for by full-time candidates in the public examination system (see middle column of Table 9), 1% corresponding to part-time students in the public examinations and 1% for students taking the Independent Examinations Board (IEB) examinations. Strictly speaking, around half of part-time examination candidates who obtain the NSC, do so whilst registered at an institution other than an ordinary school (see Table 7). However, virtually all part-time candidates are completing an education process they began in a school. The national statistic of 40% has corresponding provincial values that range from 26% in the case of EC to 48% for GP (see Table 9). All provinces except for EC have values of at least 36%. It should be noted that the Action Plan 2009 baseline value at the national level, of 40%, did not include passes amongst part-time students as the relevant figures were not available at the time.	Given problems around the measurement of the population denominator in this indicator, statistics on changes over time should be interpreted with much care. Approximately, the indicator values are improving by around 0.8 percentage points per year in the period 2008 to 2012 at the national level – see discussion following Figure 13. This improvement is just under half the pace envisaged in the Action Plan, which refers to annual improvements of 2.0 percentage points. Consequently, the system is falling behind the Action Plan targets. If one ignores the population denominator, and just focuses on NSC passes per year, then the improvement is around 1.9% per year (Table 6).	More systemic reporting and analysis of NSC passes emerging from part-time students and IEB candidates is necessary and can be achieved relatively easily. What is less easy to resolve, are uncertainties relating to the denominator, population. However, analysis of the Census 2011 microdata is likely to shed new light on this matter.

WHAT ARE THE INDICATOR VALUES, HAS THERE BEEN PROGRESS AND HOW CAN WE IMPROVE MEASUREMENT?			
Indicator description	***Recent values***	***Is there progress and movement towards targets?***	***Improving measurement of this indicator***
13.2. The percentage of youths who obtained any FET qualification.	2011 General Household Survey (GHS) data indicate that around 1% of youths obtain a qualification at the Further Education and Training (FET) level in an institution outside of a school, for instance an FET college. An unspecified number of these youths would also hold the National Senior Certificate (NSC). Thus fewer than 1% of youths hold an FET qualification but no NSC. This reflects the fact that by 2011 opportunities at the FET level outside of schools was still very limited. The indicator value here is thus at most around 43%, the 42% for the previous indicator plus 1%.	The trend applicable to the previous indicator would largely apply here. It should be noted, however, that both official enrolment data and household data point to substantial increases in the enrolments of FET colleges. For instance, GHS data indicate that FET college enrolments as a percentage of the age 18 population cohort increased from 19% to 23% between 2009 and 2011. Insofar as this increase reflects participation in colleges as an alternative to schools (as opposed to participation in both by the same student), the values for this indicator should begin to display increases beyond those of the previous indicator.	Closer collaboration with the Department of Higher Education and Training is necessary in the area of monitoring. For instance, there is a need for better comparison of student records from schools and FET colleges to examine how the two sectors complement each other and the nature of flows between schools and colleges.

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Enquiries:
Mr M Gustafsson
Office of the Director-General
info@dbe.gov.za
012 357 7000 (Switchboard)

Department of Basic Education
222 Struben Street, Pretoria, 0001
Private Bag X895, Pretoria, 0001, South Africa
Tel: (012) 357 3000 • Fax: (012) 323 0601
Private Bag X9035, Cape Town, 8000, South Africa
Tel: (021) 486 7000 • Fax: (021) 461 8110
Hotline: 0800 202 933

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