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COVID-19 DISRUPTIONS AND LEARNING IN SOUTH AFRICA: TWO YEARS OF EVIDENCE

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INTRODUCTION

School attendance and economic activity have returned to a normal state of functioning after the removal of Covid-19 related lockdown restrictions. Usual patterns of school attendance recommenced at the start of 2022 after doing away with rotational schedules in place in most schools. Yet, learning in schools remains far from normal. Two years of schooling disruption has had, and will continue to have, ramifications for children's development.

In this brief, we review what we know about learning losses and other schooling impacts in South Africa after two years of the pandemic. It is important to identify learning impacts using metrics other than year-on-year comparisons of matriculation outcomes, which to date, have masked major learning losses in lower grades.

IN THIS BRIEF, WE REVIEW WHAT WE KNOW ABOUT LEARNING LOSSES AND OTHER SCHOOLING IMPACTS IN SOUTH AFRICA AFTER TWO YEARS OF THE PANDEMIC.

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1 FALLING BEHIND IN LITERACY AND MATHEMATICS: EVIDENCE FROM THE WESTERN CAPE

Most learners in South African schools had far lower exposure to school in 2020 and 2021 than in normal years due to school lockdowns and rotational timetables applied in many schools. For example, in the Western Cape, an average of 155 school days was lost in 2020 & 2021.[1] But how large were impacts on learning as a result Covid-19 disruptions? By investigating performance in the Western Cape Systemic Tests that are written in grades 3, 6, and 9 in both language and mathematics at the end of the year, Van der Berg et al (2022)[1] compare the performance of grade cohorts from the same schools on the same questions in 2021 and 2019. Their estimates provide a province-wide example of learning losses.

Conservatively, compared to cohorts assessed in 2019, grade 3, 6 and 9 cohorts assessed in 2021 were **40% to 70% of a school year behind in language and much more, 95% to 106% of a school year, in mathematics.**[1] Figure 1 reproduces Van der Berg et al's (2022) estimates of year-on-year comparisons of average language and then mathematics performance of grade 3, 6 and 9 learners.

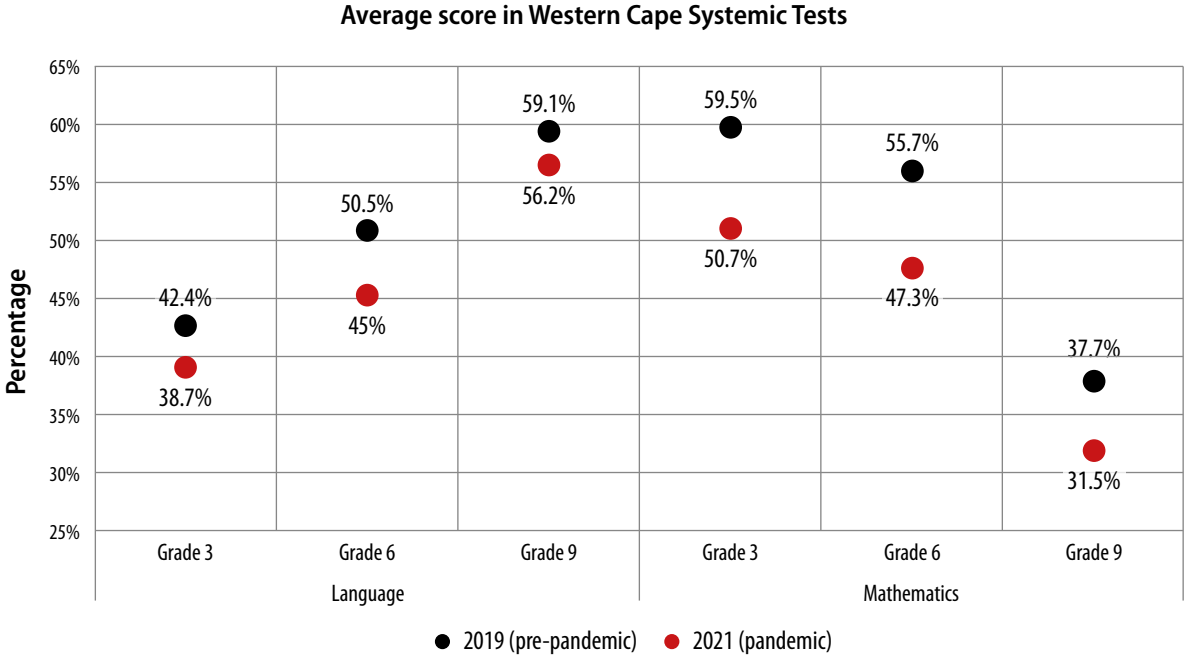

FIGURE 1: Performance declines in the Western Cape Systemic Tests (2019–2021)

Source: Van der Berg et al (2022), Table ES2 and Figure ES1.

Declines in average learner performance on the tests appear to be **larger in primary grades** (compared to grade 9) and in **mathematics,** confirming earlier expectations of large losses in mathematics.[2] There is also **evidence of widening inequality in learning across wealthier and poorer parts** of the system. This is illustrated in Figure 2A and B, showing the percentage of grade 3 and 6 learners *not* achieving a pass mark (50%) benchmark. Worse performance is seen for both quintile 1 and 5 learner groups in 2021 compared to 2019. In quintile 5 schools, 16% of grade 3s were not achieving a pass in 2019 and this increased to 25% in 2021.[1] But larger losses are seen in quintile 1 schools, despite coming off a much lower performance base: 48% of grade 3s in these schools were not achieving a pass in mathematics in 2019 but this increased to 66% in 2021.

The pandemic related declines in learning in the Western Cape should be viewed in relation to the already low levels of performance that predated Covid-19. What is more sobering is that the Western Cape has historically been the best performing province in South Africa along with Gauteng.[3] We should expect even lower levels of average performance in other provinces on the same tests.

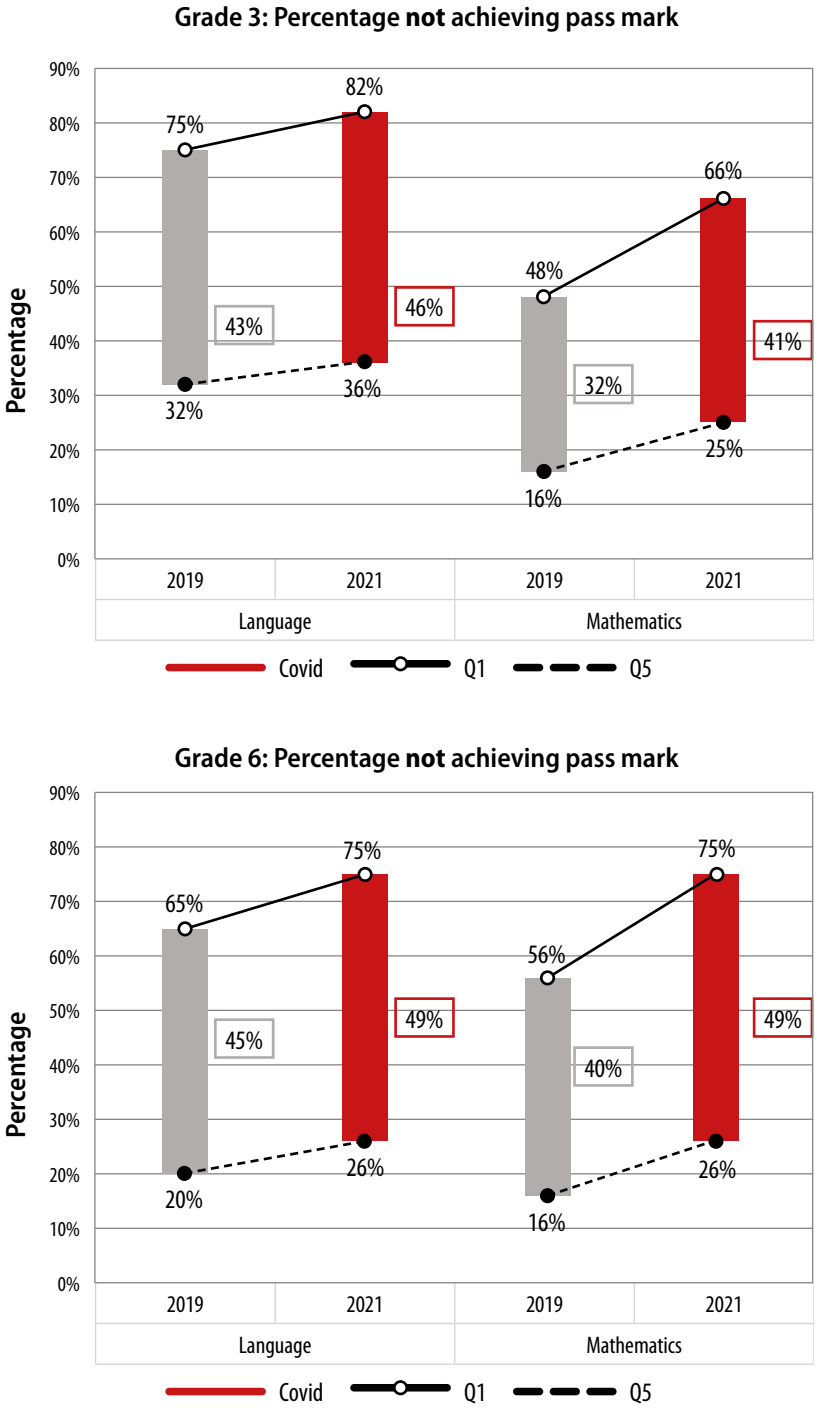

FIGURE 2: Western Cape Systemic Tests. Percentage of learners in quintile 1 and 5 schools not achieving pass mark (50%)

Source: Van der Berg et al (2022), estimates from Table ES3, ES4, ES6 and ES7. Gaps between quintile 1 and 5 schools are shown by outlined data labels.

CONSERVATIVELY, COMPARED TO COHORTS ASSESSED IN 2019, GRADE 3, 6 AND 9 COHORTS ASSESSED IN 2021 WERE 40% TO 70% OF A SCHOOL YEAR BEHIND IN LANGUAGE AND MUCH MORE, 95% TO 106% OF A SCHOOL YEAR, IN MATHEMATICS.

COVID-19 HAS DEALT A SIGNIFICANT SETBACK TO EARLY GRADE READING. THIS IS A MAJOR CONCERN WHERE INITIAL LEVELS WERE VERY LOW TO START OFF WITH.

The Western Cape Systemic Tests are very important for documenting at a province level how literacy and mathematics performance has been impacted by COVID-19 related schooling disruptions. In measuring literacy using a written assessment, the Systemics only capture the end point of the learning-to-read journey. Losses will be underestimated where lower order reading and language skills are not measured and where tests are set above average learner ability levels. For instance, written comprehension tasks assess higher order reading skills and cannot be used to detect deficits in skills such as oral reading fluency, alphabetic knowledge or oral language that are necessary building blocks on the journey to be able to read for meaning.[4] For this reason, we turn to assessments of early grade reading from non-representative samples in three provinces.

2 LEARNING LOSSES: THE CASE OF EARLY GRADE READING

After progress in reading development in South Africa[5], COVID-19 has dealt a significant setback to early grade reading. This is a major concern where initial levels were very low to start off with. This is observed using early grade reading assessment data from the Funda Wande project and the 1st and 2nd Early Grade Reading Study (EGRS I and EGRS II). More information on these study samples is provided in Box 1.

In 2020 in Eastern Cape and Mpumalanga no-fee charging schools, Foundation Phase learners lost 56% to 60% of the number of school days in a normal school year (see Table 1) due to school closures and rotational school timetables. Losses in contact teaching time led to a 57% to 70% reduction in children's reading development in Nguni home languages and a 62% to 81% reduction in reading development in English First Additional Language (EFAL) compared to a normal grade 2 or 4 year.[6] In North West province, in a sample of 202 schools, in the second year of the pandemic, 37% of school days were lost in earlier grades (largely due to continued rotational schedules) after losing more than half of a normal school year in 2020.

TABLE 1: Schooling days lost versus learning losses over a year, evidence from no-fee schools in three provinces

		YEAR OF LEARNING LOST		
	School days lost	Alphabetic knowledge	Home language (HL) reading	English first additional language (EFAL) reading
1st year of pandemic				
Grade 2 (Eastern Cape)	60% (2020 vs. 2019)	70%	57%	–
Grade 4 (Mpumalanga)	56% (2020 vs. 2019)	–	81%	62%
2nd year of pandemic				
Grade 4 (North-West)	37% (2021 vs. 2019) 56% (2020 vs. 2019)	–	54%–118%	46%

Source: Ardington, Wills and Kotze (2021), Bisgard et al (2021). Note: School days lost account for Covid related school lockdowns, not attending school due to rotational schedules, and other discretionary school closures.

Another way of expressing the losses in Table 1 is shown in Figure 3, illustrating learners' average development in oral reading fluency or isolated word reading during a normal school year and then during the first and second year of the pandemic.

- In a normal year, a sample of grade 2 Eastern Cape learners on average read an additional 13 words correctly in a minute in isiXhosa at the end of the year compared to the start of the school year. By the end of 2020, grade 2s are reading just 5 additional words correctly in a minute compared to the start of the year. Not shown in the figure is the substantial decline in the acquisition of basic alphabetic knowledge.
  Pre-pandemic, grade 2s in the Eastern Cape school sample would usually sound an additional 23 letters correctly over a year. In 2020, development in alphabetic knowledge declined to just 7 additional letters in grade 2.
- Among a grade 4 Mpumulanga sample, reading development in home language almost stagnates during the 2020 pandemic year. Grade 4s in EGRS II schools would normally read an additional 9 words correctly in a minute from an isiZulu or Siswati language text. This declines to just 2 additional words.
- After two years of disruptions to schooling, losses in reading appear to be even more severe as observed in 202 North West schools. Normally during grade 4, learners' fluency improves by about 12 additional words on average in Setswana. After two years of the pandemic, grade 4 learners in term 3 of 2021 were reading *fewer* words in a minute than grade 3 learners (in the same schools) in term 3 of 2019 (see Figure 4).[7]
- Reading trajectories in English have also deteriorated, as evidenced by grade 4 assessments of oral reading fluency in Mpumulanga and North West province school samples.

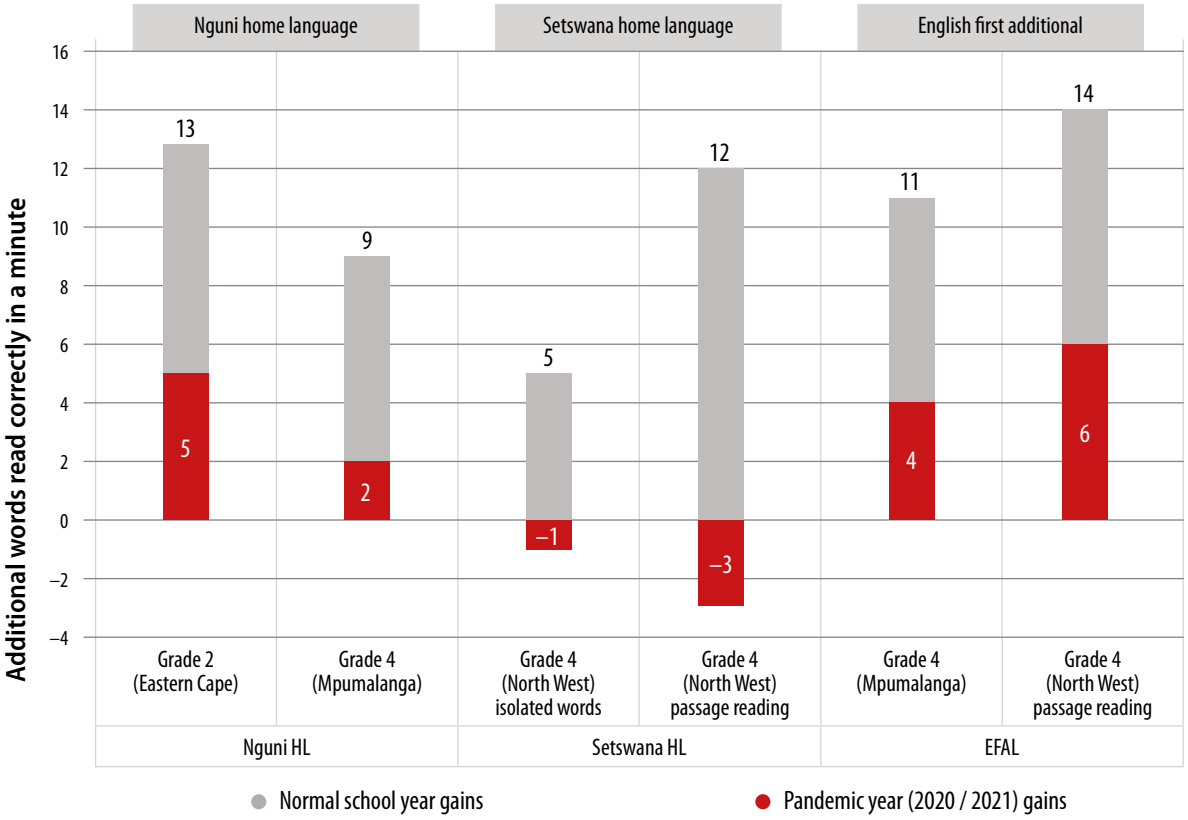

FIGURE 3: Reading development over a year (additional words read correctly in a minute). Normal school year vs. Covid-19 pandemic years. Evidence from no-fee school samples in three provinces

Notes: Grade 2 (Eastern Cape) and Grade 4 (Mpumalanga) estimates from Ardington, Wills & Kotze (2021) using Funda Wande (Grade 2), EGRS II and SPS data (Grade 4). Estimates for Grade 4 (North West) are from own calculations using grade 3 and 4 EGRS I and RSP (2018 and 2021) data. All estimates are derived from regressions using school fixed effects and/or difference-in-difference estimation.

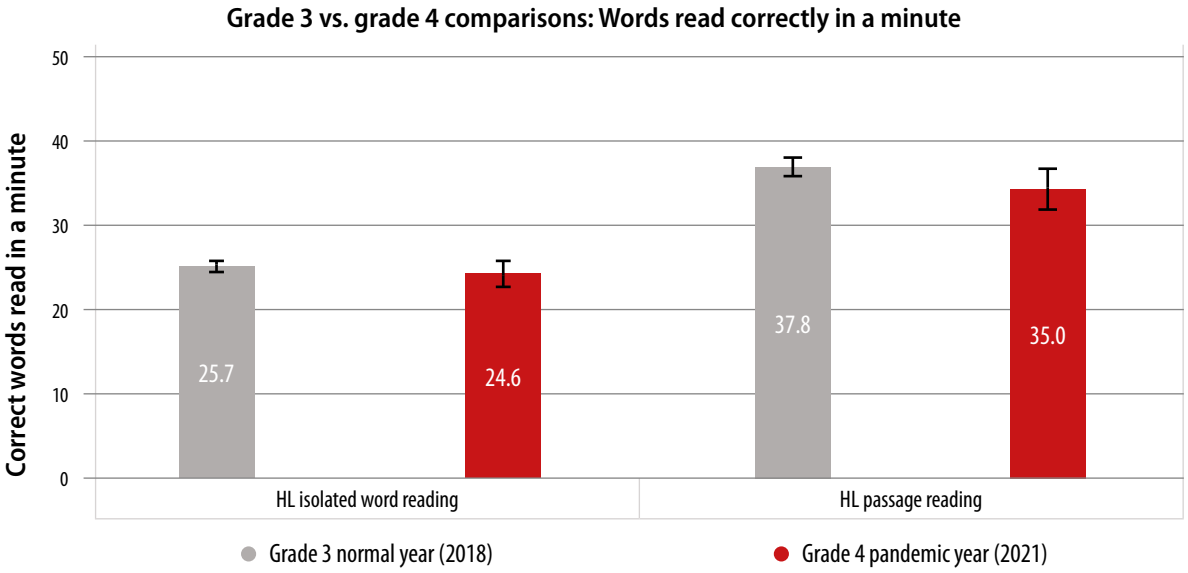

FIGURE 4: Reading levels of grade 3 (2018) and grade 4 (2021) learners in the same schools, North West province sample

Source: EGRS I (2018) & RSP (2021), own calculations. Notes: Estimates are plotted from a school fixed effects regression. HL = home language. N schools = 202. N learners = 5066 and 5050. These figures are slightly adjusted from those shown in Kotze et al (2022)[7] due to additional data cleaning.

BOX 1

EARLY GRADE READING SAMPLES USED TO ASSESS LOSSES IN READING

The following samples are available to assess Covid-19 related learning losses in reading.

Eastern Cape sample: Ardington et al (2021) compare the reading gains of 435 students who were in grade 2 in 2020 against 566 students who were in grade 2 in 2019 in the same 57 schools. The schools include treatment and control schools assessed for the Funda Wande impact evaluation. The home language of almost all these learners is isiXhosa.

Mpumalanga sample: Ardington et al (2021) evaluate the performance of 1899 students who were in grade 4 in 2020 (Covid group) in 180 schools included in the second Early Grade Reading Study (EGRS II) in Mpumalanga. As a pre-Covid comparison group, the Mpumalanga sample are matched on background characteristics to 2910 students who completed grade 4 between 2018 and 2019 in 354 Story Powered Study schools in KwaZulu-Natal. For both the Covid and counterfactual samples, isiZulu is the majority home language spoken.

Performance gains over time are compared across each sample using a difference-in-difference estimation, with school fixed effects to absorb time-invariant between-school variation.

North-West sample: Grade 3 and 4 reading assessments were conducted in the North West province for the first Early Grade Reading Study (EGRS I) and the subsequent Reading Support Programme (RSP) in 2018 and 2021. In both years, random samples of grade 3 learners were drawn from EGRS I and RSP schools (a subset of EGRS I schools). Grade 3 reading outcomes are compared across 2018 and 2021 in the same 202 schools. Then we compare reading outcomes in the same 202 schools for 2015 and 2018 grade 1 cohorts that were assessed three years later when the majority were in grade 4. The combined 2018 and 2021 grade 3 sample is just over 5000 learners and the combined grade 4 samples range from 5300 to 5400.

In all the above studies, assessment tasks have often remained very similar (or in some cases identical) across years and grades. This supports both year-on-year comparisons of reading levels and the identification of how learning gains have changed during the pandemic when considered in relation to typical learning gains pre-pandemic. In other words, we can calculate both how far learners have fallen behind, as well as how much learning was lost in 2020 and 2021.

IN ALL THE ABOVE STUDIES, ASSESSMENT TASKS HAVE OFTEN REMAINED VERY SIMILAR (OR IN SOME CASES IDENTICAL) ACROSS YEARS AND GRADES.

3 REDUCTIONS IN WRITING AND WORK DONE

One of the main reasons that learners have fallen behind is simply that they have received far less instruction (see Table 1) and done less work during school lockdowns or with school rotational timetables in place. Evidence of reductions in opportunities to learn during pandemic affected years is revealed by examining work done in Department of Basic Education (DBE) Rainbow Workbooks.

DBE workbooks of a grade 3 teacher's best learner were evaluated in 2018 and 2021 at similar points in term 3 as part of the first Early Grade Reading Study (EGRS I).[8] Year-on-year comparisons of work done, calibrated up to eight weeks into the third term, is shown in Figure 5. The number of pages reflecting any work done declined from 22 to 17 pages in Setswana home language workbooks, and from 21 to 18 pages in English First Additional Language (EFAL) workbooks. In 2018, there was writing of at least one full sentence in home language workbooks on 12 pages declining to just 7 pages in 2021. In EFAL workbooks there was half as much evidence of writing of full sentences in 2021 (12 to 7 pages). Pages showing paragraph writing in EFAL workbooks declined from 6 pages in 2018 to 3 pages in 2021. Reductions in DBE workbook coverage occurred despite teachers indicating that the main way non-contact teaching took place during school closures and rotational scheduling was through children taking home DBE workbooks.[8]

Less evidence of writing at lower grade levels could explain the particularly large impacts on writing observed in the Western Cape Systemic Tests.[1] Language results in the Western Cape Systemics Tests were analysed in relation to three curriculum areas: 'Lexical comprehension' (vocabulary); 'Writing'; and 'Reading comprehension'. The largest declines from 2019 to 2021 at the Grade 3 level were for 'Lexical comprehension' and 'Writing' (a decline of 4 percentage points for each component).

EVIDENCE SHOWS THAT THERE WAS LESS WRITING IN GRADE 3 DBE RAINBOW WORKBOOKS IN 2021 COMPARED TO 2018.

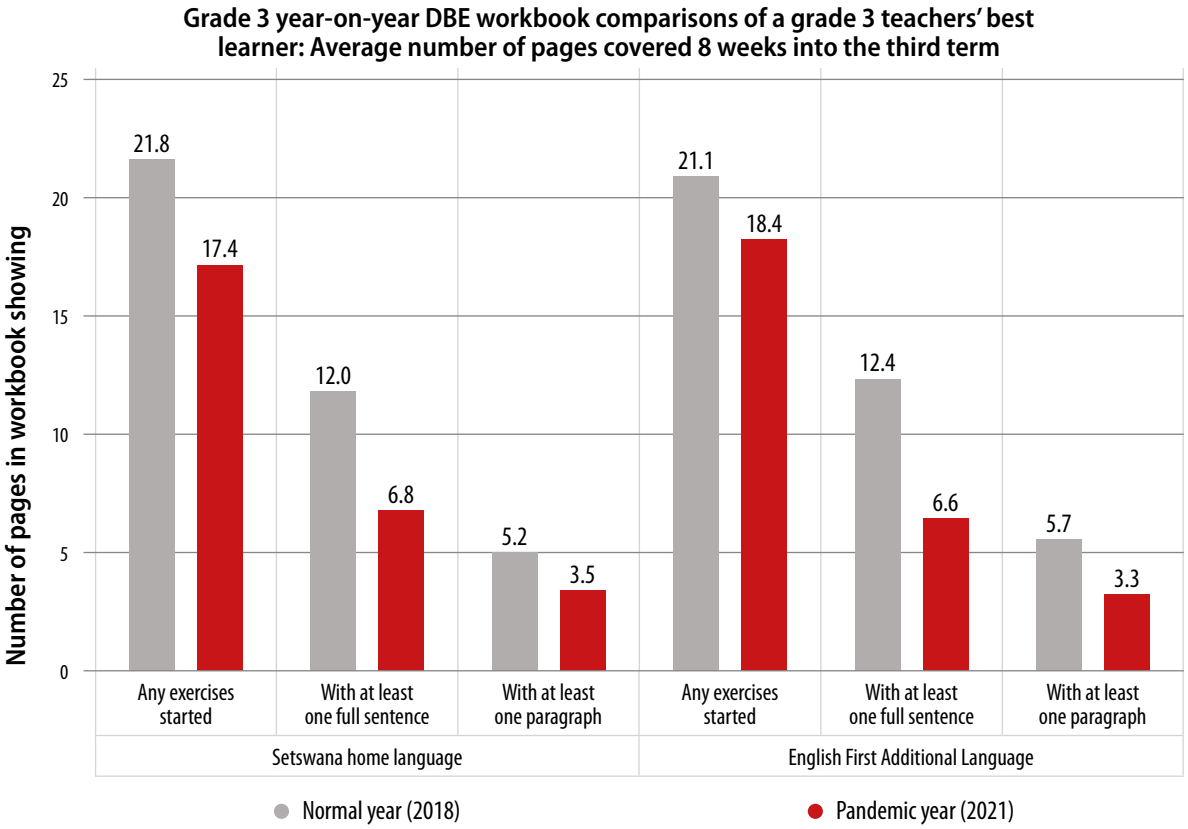

FIGURE 5: Reductions in pages covered in Home Language and English First Additional Language DBE Rainbow Workbooks in a North West province sample of schools. Term 3 2018 vs Term 3 2021

Source: Own calculations using EGRS I wave 4 and 5. Only the best grade 3 learners' workbooks are compared across each year to ensure similarity in sampling of workbooks across waves. N schools = 129–137. Estimates are from regressions controlling for school fixed effects and adjusted for any slight differences in time passed since the term started and when workbooks were evaluated.

4 DECLINES IN REPETITION RATES ACROSS THE EDUCATION SYSTEM

During Covid-19, typical learner progression patterns have been significantly disrupted. A major trend observed has been **large and sustained system-wide reductions in repetition rates at all grade levels**, but particularly in grades 10 and 11. We provide evidence of end of year non-progression rates (i.e., repetition rates) for a balanced sample of schools in two provinces – Gauteng and the Eastern Cape (Figure 6).

Across primary school grades (1 to 7), a four-percentage point decline in repetition rates is observed compared to pre-pandemic (2016) levels in the Eastern Cape. This decline in repetition remains relatively entrenched at the end of 2021. A similar pattern is observed in Gauteng. Historically high repetition rates in grade 1 (18% in the Eastern Cape and 12% in Gauteng in 2016) had declined to pre-pandemic grade 2 repetition levels (12% in the Eastern Cape and 9% in Gauteng in 2016) by the end 2021. This will likely have implications for the acquisition of foundational reading and numeracy skills taught in grade 1 if pre-pandemic patterns of 'holding back' children in grade 1 were related to issues of school readiness.

With much larger numbers of learners pushed through the system, this in turn has implications for raising class sizes in higher grades while reducing class sizes in lower grades. We also anticipate rising class sizes in higher grades due to reduced drop-out rates. Historically, repeaters have been more likely to drop-out in later grades, so drop-out rates are expected to decline.

At the FET (Grades 10–11) level, repetition rate reductions are particularly notable. For instance, in 2016 almost a third of grade 10s in the Eastern Cape (EC) and Gauteng (GP) were not progressed to grade 11. Grade 10 repetition rates decline to 18% (EC) and 17% (GP) in 2020 and stabilise slightly to 23% (EC) and 24% (GP) in 2021.

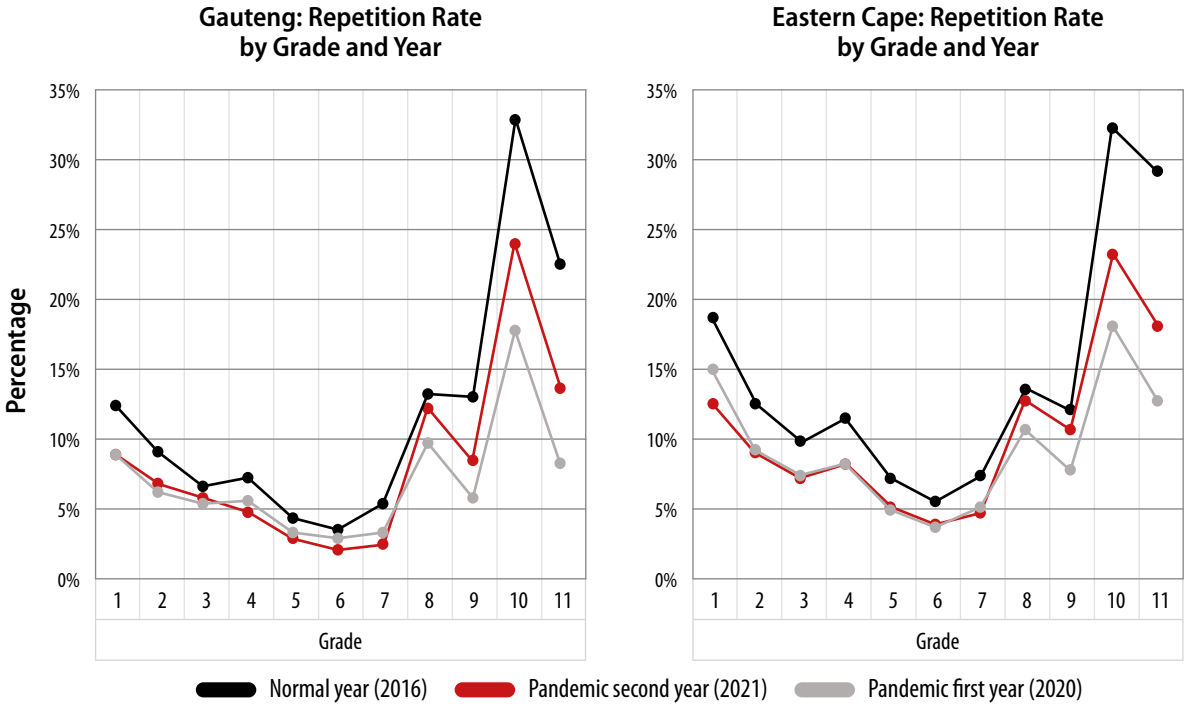

FIGURE 6: Reduction in repetition rates (i.e. not being progressed) during the pandemic. Gauteng and the Eastern Cape province

Source: Data Driven Districts. Calculation by Van Wyk and Van der Berg (2022) using a balanced school sample in each province. Calculations using data for up to 1.5 million grade 1 to 12 learners in each province. Repetition rates in each year identify the percentage of enrolled learners who were not progressed to a higher grade the following year.

5 RECOMMENDATIONS

Together, the evidence discussed in this brief, confirms that learning losses in South Africa have been large. Covid-19 has disrupted South African education in significant ways, with enduring impacts for the system (including altered enrolment patterns) and for children's development. A further concern is that nationally, education budgets are being squeezed in a recessionary climate. This has further implications for the quality of education service delivery. Nevertheless, progress is possible in the presence of limited resources, evidenced by the fact that some provinces have been able to achieve better results than others among equally poor children.

Learning loss realities should be significantly reshaping instruction and policy. If what takes place in schools has not shifted to accommodate learning gaps, significant action needs to be taken. Table 2 reiterates the recommendations in the report on learning declines from the Western Cape Systemic Test. Following from these recommendations, the Western Cape Education Department announced in July this year that more instructional time would be accommodated for Mathematics and Language.

In conclusion, large-scale remediation must be built into education service delivery despite the budgetary cuts that are being faced. This is a non-negotiable on both humanitarian and economic grounds. Children have a right to learn, and the future of South Africa depends on the realisation of this right.

TABLE 2: Recommendations from Van der Berg et al (2022)

Additional time for Language and Mathematics
Additional instructional time for catch up in Mathematics and Language (gateway subjects) should be accommodated across all grades.
Free up time from other subjects
Freeing up time for this may require reducing time allocations for other subjects or integrating non-core subjects into other subjects (as was done in 2020 with the integration of Life Skills in the Foundation Phase into Home Language).
Reduce the instructional load of other subjects
The instructional load of all subjects apart from Mathematics and Language needs to be reduced.
Diagnostics assessments
To identify gaps in learning, individual teachers should regularly conduct diagnostic assessments of learners' knowledge. The DBE/provinces/districts could assist teachers by providing quality benchmark assessments and assistance to teachers in interpreting results of these tests. For example, Foundation Phase reading benchmarks are available for Nguni languages, Sotho-Setswana languages and EFAL.
Educator assistants to support learners
Educator assistants, made possible through the Presidential Youth Employment Initiative (PYEI), should focus on assisting individual learners with catching up content in Mathematics and Language. Working through the previous year's DBE Rainbow Workbook with individual learners should be the key activity of educator assistants. This will provide one-on-one instructional and affective support to learners, especially those who are struggling.

IN CONCLUSION, LARGE-SCALE REMEDIATION MUST BE BUILT INTO EDUCATION SERVICE DELIVERY DESPITE THE BUDGETARY CUTS THAT ARE BEING FACED.

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