# Learning Losses in the Western Cape Systemic Tests 

## EXECUTIVE SUMMARY

## 2019 2021

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## Abstract

Most learners in South African schools missed at least three-quarters of a school year over the course of 2020 and 2021, due to the Covid-19 pandemic, lockdowns, school closures and rotational timetables that were introduced to maintain social distancing in classrooms. These lost school days are known to have affected learning, but lack of data has thus far limited attempts at measuring learning losses. The only two studies measuring learning loss thus far were limited to fairly small samples of learners in relatively poor schools, to reading and only to the lower grades.

This study considers a much larger sample, virtually all public schools in the Western Cape, across Grades 3, 6 and 9 in both Language and Mathematics, comparing 2021 performance with that in 2019. It thus offers a more comprehensive picture of learning losses that also has relevance in other parts of South Africa, particularly when also considering patterns across quintiles and schools with different language policies.

The findings are indeed extremely concerning: Losses in Mathematics tend to be the largest (consistent with international experience), and even when using a relatively conservative measure (assuming that a year's learning is as much as $40 \%$ of a standard deviation in primary and $30 \%$ in secondary schools), the losses indicate that learners in 2021 had fallen more than a year of learning behind learners in the same grade in 2019. In Language, losses are smaller, around three-quarters of a year equivalent in terms of learning.

Most South African learners are taught in their home langue in the Foundation Phase (up to Grade 3), but then transition to being taught through the medium of English for all subjects (except their home language) in Grade 4 and beyond. The pandemic has made this difficult language transition even more difficult. In Grade 6 Language, learners are tested in the school's LOLT (Language of Learning and Teaching), which could be either English or Afrikaans. Performance declines in Language in Grade 6 between 2019 and 2021 are much larger in schools that experience this language transition. These same schools also experienced the largest learning losses in Mathematics performance in Grade 6, perhaps because poor language skills also limit learning in Mathematics.

Two policy areas require special attention: The first is to find more time for Mathematics, to overcome the deficit that has accumulated during the Covid years. For instance, Grade 9 learners in 2021 are performing more than a year behind Grade 9 learners two years earlier, so they must catch up a full year before they write matric. This requires that they progress more than four years in the three years before they write matric. In Language, the big challenge is to ensure that reading has been mastered in the Foundation Phase, while at the same time giving urgent attention to ease the language transition. Weak reading skills and English vocabulary can inhibit all further learning for the majority of learners who have to make this language transition.

## Executive Summary

1 Due to the Covid-19 pandemic and the associated school lockdowns and rotational timetables that were applied in many schools, most learners in South African schools had far lower exposure to school in 2020 and 2021 than in normal years. This inevitably gave rise to learning losses.

2 By investigating performance in the Western Cape Systemic Tests that are written in Grades 3, 6, and 9 in both Language and Mathematics, this study was able to compare performance of the same schools on the same questions in 2021 to performance in 2019.

## A Introduction

3 Western Cape administrative (TREPS) data show an average of 155 school days lost in 2020 \& 2021.

Table ES1 Number of school days lost due to lockdowns or rotational timetabling in 2020 and 2021

|  | \% of Grade 3 learners <br> (for schools providing data) |
| :---: | :---: |
| Less than 140 days | $2 \%$ |
| $140-150$ days | $71 \%$ |
| $150-160$ days | $12 \%$ |
| $160-200$ days | $7 \%$ |
| $200+$ days | $8 \%$ |

4 Current information on learning loss in SA is limited to small samples of schools. Ardington et al (2021) found learning losses in Gr2 and 4 reading in no-fee schools of 56 to $81 \%$ of a school year in 2020, while Kotzé et al (2022) found more than a year's worth of lost learning in Setswana reading over 2020 and 2021.

Summary table: Performance declines in Systemic Tests, 2019-2021

|  |  | Gr3 Lan | Gr6 Lan | Gr9 Lan | Gr3 Mat | Gr6 Mat | Gr9 Mat |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average <br> Score | 2019 | $42.4 \%$ | $50.5 \%$ | $59.1 \%$ | $59.5 \%$ | $55.7 \%$ | $37.7 \%$ |
|  | 2021 | $38.7 \%$ | $45.0 \%$ | $56.2 \%$ | $50.7 \%$ | $47.3 \%$ | $31.5 \%$ |
| Decline (ppt) |  | 3.6 | 5.4 | 2.9 | 8.8 | 8.4 | 6.2 |
| By LOLT: <br> Decline as \% <br> of a standard <br> deviation | Afrikaans | English | $17 \%$ | $26 \%$ | $15 \%$ | $39 \%$ | $37 \%$ |
|  | All | $15 \%$ | $27 \%$ | $14 \%$ | $36 \%$ | $39 \%$ | $32 \%$ |
|  | Xhosa-to-English | $12 \%$ | $32 \%$ | $14 \%$ | $36 \%$ | $49 \%$ | $36 \%$ |
| Not achieving <br> pass (50\%) | 2019 | $56 \%$ | $44 \%$ | $31 \%$ | $32 \%$ | $36 \%$ | $74 \%$ |
|  | 2021 | $61 \%$ | $53 \%$ | $36 \%$ | $47 \%$ | $52 \%$ | $80 \%$ |
| Not achieving low <br> benchmark (30\%) | 2019 | $32 \%$ | $15 \%$ | $7 \%$ | $13 \%$ | $10 \%$ | $39 \%$ |
|  | 2021 | $41 \%$ | $24 \%$ | $10 \%$ | $25 \%$ | $20 \%$ | $55 \%$ |

Figure ES1 Learning loss by grade and subject, 2019-2021


## B Test performance and learning losses

1 Low average marks were evident already in 2019 for Gr3 Language (42.7\%) and Gr9 Maths (37.7\%), despite many multiple choice questions.

2 Learning losses in Maths are particularly large (there is little room for Gr9 Mathematics to fall further). Maths requires a specialised knowledge base that is not easily informally acquired when schools are closed.

32019 performance in Gr3 Mathematics and Gr9 Language was high, indicating easier tests. Even after losses, Gr9 Language remains easy (stronger performers even improved).

4 Conservatively estimated, learners have fallen $40 \%$ to $70 \%$ of a school year behind earlier cohorts in Language and much more, 95\% to 106\% of a school year, in Mathematics.

8 Afrikaans LOLT schools performed poorly and experienced large learning losses, except in Quintile 5 schools.

9 Xhosa-to-English LOLT schools experienced major problems in both Gr6 tests; Covid has exacerbated the already difficult LOLT transition.

10 Quintile 5 experienced much smaller learning losses than other quintiles in all tests.

11 Quintile 1 performs extremely poorly across all tests and grade levels.

12 Quintile 4 performance is surprisingly weak, usually not significantly better than Quintiles 2 and 3.


13 In most tests, girls significantly outperform boys. In Gr9, boys experienced greater learning losses, wiping out the pro-boy advantage in Mathematics.

## B. 1 GRADE 3 LANGUAGE

14 Low initial Grade 3 Language scores, despite almost half the questions being multiple choice, show that reading problems predate Covid-19. Relatively modest learning losses in this subject in Grade 3 may be due to floor effects or may indicate some catch up or learning at home.

[^0]|  | Not achieving pass mark |  |  | Not achieving low benchmark |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2019 | 2021 | Increase <br> (percentage <br> points) | $\mathbf{2 0 1 9}$ | 2021 | Increase <br> (percentage <br> points) |
| Total | $56 \%$ | $61 \%$ | 4 | $32 \%$ | $41 \%$ | 9 |
| Afrikaans LOLT | $64 \%$ | $69 \%$ | 5 | $39 \%$ | $50 \%$ | 11 |
| English LOLT | $43 \%$ | $50 \%$ | 7 | $22 \%$ | $32 \%$ | 10 |
| Xhosa LOLT | $65 \%$ | $67 \%$ | 2 | $36 \%$ | $43 \%$ | 7 |
| Quintile 1 | $75 \%$ | $82 \%$ | 6 | $47 \%$ | $60 \%$ | 13 |
| Quintile 2 | $63 \%$ | $68 \%$ | 5 | $36 \%$ | $45 \%$ | 10 |
| Quintile 3 | $68 \%$ | $71 \%$ | 2 | $39 \%$ | $47 \%$ | 8 |
| Quintile 4 | $63 \%$ | $71 \%$ | 8 | $37 \%$ | $50 \%$ | 13 |
| Quintile 5 | $32 \%$ | $36 \%$ | 4 | $15 \%$ | $20 \%$ | 5 |

## B. 2 GRADE 6 LANGUAGE

15 There is considerable learning loss in Gr6 Language, especially in schools with LOLT changes. The percentage failing rose sharply from $44 \%$ to 53\% overall, and in Xhosa-to-English schools from 59\% to 71\%.

Table ES4 Performance measured against benchmarks, 2019 vs 2021, Gr6 Language

|  | Not achieving pass mark |  |  | Not achieving low benchmark |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2019 | 2021 | Increase <br> (percentage <br> points) | $\mathbf{2 0 1 9}$ | 2021 | Increase <br> (percentage <br> points) |
| Total | $44 \%$ | $53 \%$ | 10 | $15 \%$ | $24 \%$ | 9 |
| Afrikaans LOLT | $48 \%$ | $58 \%$ | 10 | $18 \%$ | $28 \%$ | 10 |
| English FP | $29 \%$ | $38 \%$ | 9 | $8 \%$ | $14 \%$ | 5 |
| Xhosa FP | $59 \%$ | $71 \%$ | 12 | $21 \%$ | $35 \%$ | 14 |
| Quintile 1 | $65 \%$ | $75 \%$ | 10 | $27 \%$ | $42 \%$ | 15 |
| Quintile 2 | $57 \%$ | $68 \%$ | 11 | $21 \%$ | $32 \%$ | 12 |
| Quintile 3 | $55 \%$ | $66 \%$ | 11 | $19 \%$ | $31 \%$ | 12 |
| Quintile 4 | $46 \%$ | $58 \%$ | 12 | $16 \%$ | $26 \%$ | 10 |
| Quintile 5 | $20 \%$ | $26 \%$ | 6 | $5 \%$ | $8 \%$ | 3 |

## B. 3 GRADE 9 LANGUAGE

16 Performance levels in Grade 9 Language are much higher than for other subject-grade combinations, reflecting a very easy test. The $12 \%$ of a standard deviation decline is low. Afrikaans LOLT schools (except in Quintile 5) experienced the largest losses.

Table ES5 Performance measured against benchmarks, 2019 vs 2021, Gr9 Language

|  | Not Achieving pass mark |  |  | Not achieving low benchmark |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2019 | 2021 | Increase <br> (percentage <br> points) | $\mathbf{2 0 1 9}$ | $\mathbf{2 0 2 1}$ | Increase <br> (percentage <br> points) |
| Total | $31 \%$ | $36 \%$ | 6 | $7 \%$ | $10 \%$ | 3 |
| Afrikaans LOLT | $34 \%$ | $41 \%$ | 7 | $8 \%$ | $11 \%$ | 3 |
| English HL | $12 \%$ | $15 \%$ | 4 | $2 \%$ | $3 \%$ | 1 |
| Xhosa HL | $49 \%$ | $56 \%$ | 7 | $13 \%$ | $18 \%$ | 5 |
| Quintile 1 | $52 \%$ | $59 \%$ | 7 | $15 \%$ | $21 \%$ | 6 |
| Quintile 2 | $51 \%$ | $59 \%$ | 8 | $13 \%$ | $19 \%$ | 6 |
| Quintile 3 | $45 \%$ | $51 \%$ | 6 | $11 \%$ | $14 \%$ | 3 |
| Quintile 4 | $35 \%$ | $41 \%$ | 6 | $8 \%$ | $10 \%$ | 2 |
| Quintile 5 | $11 \%$ | $14 \%$ | 3 | $2 \%$ | $3 \%$ | 1 |

## B. 4 GRADE 3 MATHEMATICS

17 There were extreme learning losses in Grade 3 Mathematics, with average marks dropping from a relatively high $59 \%$ to $50 \%$. Those not achieving a pass mark increased from 32\% to 47\%, and those not reaching the low benchmark doubled. Afrikaans LOLT schools, already weakest in Maths in 2019, lost the most - equivalent to a full school year - and Xhosa LOLT schools the least. 57\% of Afrikaans LOLT learners failed to achieve a pass mark.

|  | Not achieving pass mark |  |  | Not achieving low benchmark |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2019 | $\mathbf{2 0 2 1}$ | Increase <br> (percentage <br> points) | $\mathbf{2 0 1 9}$ | $\mathbf{2 0 2 1}$ | Increase <br> (percentage <br> points) |
| Total | $32 \%$ | $47 \%$ | 15 | $13 \%$ | $25 \%$ | 12 |
| Afrikaans LOLT | $41 \%$ | $57 \%$ | 16 | $19 \%$ | $35 \%$ | 16 |
| English LOLT | $23 \%$ | $37 \%$ | 14 | $9 \%$ | $18 \%$ | 10 |
| Xhosa LOLT | $31 \%$ | $47 \%$ | 16 | $11 \%$ | $23 \%$ | 12 |
| Quintile 1 | $48 \%$ | $66 \%$ | 19 | $22 \%$ | $41 \%$ | 19 |
| Quintile 2 | $35 \%$ | $51 \%$ | 17 | $13 \%$ | $27 \%$ | 13 |
| Quintile 3 | $38 \%$ | $54 \%$ | 16 | $16 \%$ | $30 \%$ | 14 |
| Quintile 4 | $39 \%$ | $57 \%$ | 19 | $17 \%$ | $32 \%$ | 16 |
| Quintile 5 | $16 \%$ | $25 \%$ | 9 | $6 \%$ | $11 \%$ | 5 |

## B. 5 GRADE 6 MATHEMATICS

18 Learning losses were large in Grade 6 Mathematics. Conservatively estimated, learners who wrote in 2021 performed more than a year behind those who wrote in 2019. The proportion failing to achieve a pass mark rose greatly from $36 \%$ to $52 \%$. Even the Quintile 5 decline converts to around three-quarters of a year's learning lost. Schools with LOLT changes lost at least 1.2 years of learning, while those failing to pass rose from $40 \%$ to $61 \%$.

Table ES7 Performance measured against benchmarks, 2019 vs 2021, Gr6 Mathematics

|  | Not achieving pass mark |  |  | Not achieving low benchmark |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2019 | 2021 | Increase <br> (percentage <br> points) | $\mathbf{2 0 1 9}$ | 2021 | Increase <br> (percentage <br> points) |
| Total | $36 \%$ | $52 \%$ | 17 | $10 \%$ | $20 \%$ | 11 |
| Afrikaans LOLT | $45 \%$ | $62 \%$ | 17 | $14 \%$ | $27 \%$ | 13 |
| English FP | $23 \%$ | $39 \%$ | 15 | $5 \%$ | $12 \%$ | 7 |
| Xhosa FP | $40 \%$ | $61 \%$ | 21 | $11 \%$ | $25 \%$ | 14 |
| Quintile 1 | $56 \%$ | $75 \%$ | 18 | $18 \%$ | $36 \%$ | 17 |
| Quintile 2 | $41 \%$ | $63 \%$ | 22 | $12 \%$ | $26 \%$ | 14 |
| Quintile 3 | $45 \%$ | $62 \%$ | 17 | $13 \%$ | $25 \%$ | 12 |
| Quintile 4 | $41 \%$ | $60 \%$ | 20 | $11 \%$ | $23 \%$ | 13 |
| Quintile 5 | $16 \%$ | $26 \%$ | 10 | $3 \%$ | $7 \%$ | 4 |

## B. 6 GRADE 9 MATHEMATICS

19 The Grade 9 Mathematics test showed the lowest performance in 2019 (38\%) and a considerable decline in 2021. Almost three-quarters of learners failed this test in 2019, rising to 80\% in 2021. Learning loss was at least $106 \%$ of a year's learning, and $120 \%$ in schools where the LOLT change from Xhosa in the Foundation Phase to English in subsequent grades. Performance of Quintile 4 schools was as weak as that of Quintile 1, 2 and 3.

Table ES8 Performance measured against benchmarks, 2019 vs 2021, Gr9 Mathematics

|  | Not achieving pass mark |  | Not achieving low benchmark |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2019 | $\mathbf{2 0 2 1}$ | Increase <br> (percentage <br> points) | $\mathbf{2 0 1 9}$ | $\mathbf{2 0 2 1}$ | Increase <br> (percentage <br> points) |
| Total | $74 \%$ | $80 \%$ | $\mathbf{6}$ | $\mathbf{3 9 \%}$ | $55 \%$ | 17 |
| Afrikaans LOLT | $75 \%$ | $81 \%$ | 5 | $41 \%$ | $59 \%$ | 18 |
| English HL | $61 \%$ | $67 \%$ | 6 | $26 \%$ | $39 \%$ | 14 |
| Xhosa HL | $89 \%$ | $94 \%$ | 4 | $51 \%$ | $70 \%$ | 19 |
| Quintile 1 | $92 \%$ | $96 \%$ | 4 | $55 \%$ | $74 \%$ | 20 |
| Quintile 2 | $92 \%$ | $95 \%$ | 3 | $54 \%$ | $73 \%$ | 19 |
| Quintile 3 | $89 \%$ | $94 \%$ | 5 | $50 \%$ | $71 \%$ | 21 |
| Quintile 4 | $87 \%$ | $93 \%$ | 5 | $48 \%$ | $67 \%$ | 19 |
| Quintile 5 | $51 \%$ | $56 \%$ | 5 | $20 \%$ | $31 \%$ | 10 |

## Language performance by learning areas

1 A range of local and international tests show that performance for the Western Cape in reading and language at levels below the NSC can be characterised as low. Only roughly half the learners in the province demonstrate adequate reading proficiency. Performance on the annual WCED Learner Systemic Tests in Language has been stable and low.

## C. 1 COVID CURRICULUM CHANGES

2 Through the Covid period of 2020 and 2021 there were minimal changes to Language curriculum policy, and thus it was unlikely to affect the outcomes of the 2021 tests. A reduction in the 'Writing' tasks across the three grade levels would have given learners less specific instruction in this curriculum area in 2020. The reduction in the number of assessment tasks in 2020 would also have meant less formal writing practice, including that taking place under test conditions. This lack of practice may have knocked on to 2021, the year in which the Systemic Tests analysed in this document were written.

## C. 2 FRAMEWORK FOR ANALYSIS OF 2019-2021 LEARNING LOSSES

3 Test results were analysed in relation to three curriculum areas: 'Lexical comprehension' (vocabulary); 'Writing'; and 'Reading comprehension'. 'Reading comprehension' was considered in relation to four types of understanding required by questions: 'Focus on and Retrieve Explicitly Stated Information';'Straightforward inferences';'Interpret and Integrate Ideas and Information'; and 'Evaluate and Critique Content and Textual Elements'. Consideration was also given to the testing of engagement with fictional and informational texts that represent the two key purposes for reading at school: for literary experience and for retrieving information.

## C. 3 GRADE 3 LANGUAGE PERFORMANCE BY LEARNING AREAS

4 The greatest changes from 2019 to 2021 at the Grade 3 level were for 'Lexical comprehension' and 'Writing' (a decline of 4 percentage points for each component). 'Reading comprehension' declined by 3 percentage points from an average of $43 \%$ to $40 \%$. Declines were similar across 'Reading comprehension' processes (also round 3 points).

5 Although students performed similarly in 'Reading comprehension' whether based on fictional or informational texts, they showed a much greater decline in 'Writing' that required them to use information to construct a text (a decline of 6 percentage points) compared to those requiring them to use their imagination only (a 2 percentage point decline).

## C. 4 GRADE 6 LANGUAGE PERFORMANCE BY LEARNING AREAS

6 Table ES9 below shows performance levels and decline in Grade 6 for three Language components. Declines were much larger in Grade 6 than Grade 3, although off a higher performance base. Declines were most severe in 'Writing' (8 percentage point decrease) where performance was already the lowest in 2019.

Table ES9 Performance levels and decline in Grade 6 for three Language components, 2019 to 2021

|  |  | 2019 | 2021 | Decline <br> (percentage points) |
| :---: | :--- | :---: | :---: | :---: |
| COMPONENT <br> AREA | Lexical Comprehension | $55 \%$ | $48 \%$ | 7 |
|  | Reading Comprehension | $57 \%$ | $51 \%$ | 5 |
|  | Writing | $41 \%$ | $32 \%$ | 8 |

7 In relation to comprehension questions, the greatest declines were for 'Retrieve Explicitly Stated Information' followed by 'Make Straightforward Inferences'. Learners maintained very low performance (between $36 \%$ and $38 \%$ ) on the higher order comprehension processes ('Interpret and Integrate Ideas and Information' and 'Evaluate Texts') between 2019 and 2021.

8 Overall performance in 'Reading comprehension' and 'Writing' based on informational text was lower than that based on fictional text, across 2019 and 2021. The extent of the decline for the text types was however similar.

## C. 5 GRADE 9 LANGUAGE PERFORMANCE BY LEARNING AREAS

9 Performance and declines at the Grade 9 level showed quite different patterns to the Grade 3 and Grade 6 levels. Firstly, performance on this test was much higher in both 2019 and 2021 than in the two other grades. Secondly, although there were losses across most language components and question types, these were less severe than at the other grade levels. There were no items measuring 'Writing' in the analysis as the test items had to be removed given their lack of comparability (the 2021 test 'Writing' items had been changed from 2019). The decline in 'Lexical comprehension' was 1 percentage point and in 'Reading comprehension' 3 points. These declines were off a $58 \%$ and $61 \%$ base respectively.

10 Table ES10 shows there was a small improvement in performance on items that required students to 'Make Straightforward Inferences' (2 percentage points), and a small decline in those that required students to 'Retrieve Explicitly Stated Information' and 'Evaluate texts'. The greatest decline was found in the more challenging questions where students were required to 'Interpret \& Integrate Ideas \& Information' (a decrease of 6 percentage points). Students showed a similar decline in questions based on informational texts and those based on fictional texts, which was 3 and 2 points respectively.

Table ES10 Performance levels and decline in Grade 9 for different comprehension question types, 2019 to 2021

|  |  | 2019 | 2021 | Decline <br> (percentage points) |
| :--- | :--- | :---: | :---: | :---: |
|  | Retrieve Explicitly <br> Stated Information | $71 \%$ | $69 \%$ | 2 |
| COMPREHENSION <br> QUESTION TYPES | Make Straightforward <br> Inferences | $41 \%$ | $43 \%$ | -2 (improvement) |
|  | Interpret \& Integrate <br> Ideas \& Info | $53 \%$ | $47 \%$ | 6 |
|  | Evaluate texts | $56 \%$ | $54 \%$ | 2 |

# D Mathematics performance by learning areas 

## TEST PERFORMANCE AND LEARNING LOSSES

In 'Number Operations and Relationships', the most fundamental content area in Foundation Phase
Mathematics, the average marked dropped from 57\% in 2019 to 48\% in 2021

## 37\%

owest scores for 'Routine Calculations' with average of only $37 \%$ in 2021.
-9ppt) Drop in average from 57\% to 48\% in core contents area "Number operations and Relationships"

## D. 1 GRADE 3 MATHEMATICS PERFORMANCE BY LEARNING AREAS

1 'Number Operations and Relationships' is the most fundamental content area in Foundation Phase Mathematics, thus it is extremely concerning that the average marked dropped from 57\% in 2019 to 48\% in 2021.

2 Performance in 'Measurement' was the lowest in both 2019 and 2021, with performance dropping to $26 \%$ in 2021. Poor performance in 'Measurement' is also an indicator of low proficiency in 'Number Operations and Relationships'.

3 Within 'Number Operations and Relationships', the lowest performance was for 'Routine Calculations' in both 2019 and 2021, with an average score of only $37 \%$ on these items in 2021. The low performance for 'Routine Calculations' is likely an indicator of learners struggling to get to grips with the symbolic 'language' of Mathematics and understanding and applying the four basic operations.

4 Performance was also poor for 'Word Sums', with an average score of only $40 \%$ in 2021. This poor performance on 'Word Sums' is no doubt related to poor reading performance levels in Grade 3, specifically, reading for learning, but is also likely a consequence of low proficiency in 'Routine Calculations' in cases where a question has been correctly interpreted.

5 Across all three LOLT groups, performance in 'Measurement', 'Routine Calculations' and 'Word Sums' was below 50\%, with the poorest performance in Afrikaans LOLT schools in all three content areas.

6 Q1-3 and Q4 schools scored below 50\% in 'Number Operations and Relationships', compared with 63\% of learners in Q5 schools. In the sub-topic 'Routine Calculations', the average scores were below 30\% in Q1-3 and Q4 school, compared with $51 \%$ for learners in Q5 schools.

## D. 2 GRADE 6 MATHEMATICS PERFORMANCE BY LEARNING AREAS

7 In Grade 6 Mathematics, average performance levels dropped to below $50 \%$ in 2021 for 'Data Handling','Number Operations and Relationships' and 'Patterns, Functions and Algebra'.

8 Performance in 'Measurement' was the lowest in both 2019 and 2021, at a 38\% average mark in 2021.

## MATHEMATICS PERFORMANCE BY LEARNING AREAS



40\%
Average Grade 3 score in 2021 for 'Word Sums'


Q1-3 and Q4 schools scored below $<50 \%$ in Number Operations and Relationships in Grade 3
 38\%

Average mark in 'Measurement', the lowest of all learning areas in Grade 6 in 2019 and 2021

## GRADE 6 MATHEMATICS PERFORMANCE BY LEARNING AREAS


'Solving Problems with Fractions, Decimals and Percentages' 2021
 48\%

In Q5 schools, average scores only fell below 50\% in'Solving Problems with Fractions, Decimals and Percentages'

9 Within ‘Number Operations and Relationships', the greatest learning losses were for 'Whole Number Sense' and 'Recognising and Comparing Fractions, Decimals and Percentages'.

10 Performance in 'Solving Problems with Fractions, Decimals and Percentages' dropped from a low 40\% in 2019 to below 35\% in 2021.

11 Across both LOLT groups, average scores were below 50\% for 'Data Handling', 'Measurement', and 'Number Operations and Relationships'. In addition, Afrikaans LOLT learners scored less than 50\% on average for 'Patterns, Functions and Algebra'.

12 In both Q1-3 and Q4 schools, average scores were less than $50 \%$ in all the content areas except Geometry. In Q5 schools, average scores only fell below 50\% in 'Solving Problems with Fractions, Decimals and Percentages'.

## D. 3 GRADE 9 MATHEMATICS PERFORMANCE BY LEARNING AREAS

13 In Grade 9 Mathematics, the greatest learning loss (15 percentage points) was for 'Number Operations and Relationships', where average performance dropped below 20\% in 2021. This was followed by 'Patterns, Functions and Algebra' (8 point loss), where the average score was below 40\%.

14 The extremely low performance in 'Measurement' is again apparent in Grade 9, where the average performance was below 10\% in both 2019 and 2021.

15 Within Grade 9'Patterns, Functions and Algebra', average scores were below 50\% in all four sub-topics, with the lowest performance for 'Graphs' in both 2019 and 2021. The very poor performance in these sub-topics suggests Grade 9 learners are struggling to grasp basic principles of algebraic language.

16 Average scores were below $50 \%$ for both English and Afrikaans LOLT groups across all the content areas and sub-topics.

17 The most significant differences in learning losses across quintile groups was for 'Numbers Operations and Relationships' and 'Patterns, Functions and Algebra'.

18 While learners in Q5 schools scored an average of 55\% in 'Number Operations and Relationships' in 2021, a decline of 4 points, this was far higher than the 29\% and $28 \%$ average scored in the other quintile groupings.

LANGUAGE TESTS
FRAMEWORK


An extremely low performance in 'Measurement' apparent in Grade 9


Grade 9 learners are struggling to grasp basic principles of algebraic language

The lowest performance for both LOLT groups was'Measurement'

## F Conclusions and Recommendations

## AREAS REQUIRING SPECIAL ATTENTION



FOUNDATION PHASE
READING PERFORMANCE


READING SKILLS AND VOCABULARY IN ENGLISH FOR LEARNERS IN THE INTERMEDIATE PHASE (ESPECIALLY IF THERE WAS A LOLT TRANSITION)


MATHEMATICS AT ALL LEVELS


QUINTILE 4 SCHOOLS

1 The very difficult Gr3 Language test that leads to floor effects plus the multiple choice questions, hide the full extent of the weak performance in Foundation Phase reading and its consequences for the Intermediate Phase.

2 Time lost due to the pandemic has made the LOLT transition even more difficult. It also affects other subjects (as demonstrated in the Grade 6 Maths test). Special attention is required to ensure sufficient reading skills and vocabulary in English in the Intermediate Phase.

3 Mathematics deficits due to lost time amount to at least a year of learning in all grades.
Extra time is required for Mathematics at all levels to catch up the year lost.

4 The weak performance of Quintile 4 schools needs special attention and is also partly reflected in large learning losses in many Afrikaans LOLT schools.

Mathematics and Language are gateway subjects, forming the basis for learning in all other subjects. Additional time for catch up in these subjects should be sought. Where feasible, time allocations for other subjects should be reduced or non-core subjects suspended or integrated into other subjects in order to free up time for Language and Mathematics (for example, as was done in 2020 in Foundation Phase with the integration of Life Skills into home language).

6 Any catch up programme requires additional time. One way that this can be achieved is to strengthen the use of existing instructional time. As schools return from the disruptions of the past two years they need to be supported in maintaining regular school days and normal timetables. Shorter days (for Foundation Phase or on Fridays) should not be permitted. Careful regulation of school days during examination times must be undertaken to ensure that terms run their full course and a maximum number of school days are utilized for instruction. The district and circuit managers have a crucial role to play here.

7 Attention to addressing backlogs in reading and number sense in the Foundation Phase is a priority. Teachers must be supported in utilising existing resources and making sure that learners have the opportunity to take reading material home.

8 In subsequent phases, the overfull curriculum and homework tasks in other subjects should be reduced to allow learners to give more attention to catching up in Mathematics and Language. In other words, the instructional load of all subjects apart from Mathematics and Language needs to be reduced. This will require discussion and coordination amongst staff in schools across subjects and grades.

9 Diagnostic assessments of learners' knowledge to identify gaps should be done by individual teachers. The DBE/provinces/districts could assist teachers by providing quality benchmark assessments and assistance to teachers in interpreting results of these tests.

10 The work of Phase 3 of the Presidential Youth Employment Initiative (PYEI) beginning in April 2022 should focus on assisting individual learners with catching up content in Mathematics and Language. The sole task of the educator assistants should be to work through the previous year's DBE Rainbow workbook with individual learners. This will provide (especially struggling) learners with one-on-one instructional and affective support.

11 The DBE needs to attend to the trimming of the curriculum as a matter of urgency. Certain learning areas/topics should be omitted or consolidated, and others delayed. The focus should be on mastering those skills and concepts that are necessary for progression in learning in subsequent grades. As an example, in Mathematics, definitions of three-dimensional shapes can be left for later grades while core foundational content is mastered.
forward together sonke siya phambili saam vorentoe

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[^0]:    1 The proportion below the pass mark cannot directly be read off the $50 \%$ line, as the $50 \%$ line includes those that attained exactly $50 \%$. With a relatively low number of common items, the intersection with the $50 \%$ line would be at a slightly higher proportion than those shown not reaching this benchmark in Table ES3.

