

Covid left South African pupils far behind in maths and language skills

By Ursula Hoadley

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Learning to read, write, count and calculate forms the basis for all other learning in school and beyond. Pupils start to learn these basic skills in the first three years of schooling. Their learning continues throughout their time in school as the content becomes more complex.



Image source: MR Fakhrurozi – [123RF.com](https://www.123RF.com)

In 2020 and 2021, learners across South Africa missed at least a quarter of a school year due to COVID-related lockdowns and rotational timetabling. Many learners [lost much more school time](#).

Given these disruptions, how much learning was lost across the schooling system? The systemic tests carried out by the country's Western Cape province provided an ideal opportunity to find out. Each year the Western Cape Education Department tests learners in mathematics and language at the grade 3, 6 and 9 levels.

A team of researchers from Stellenbosch University and the University of Cape Town compared learner performance on the mathematics and language tests in 2019 with that of 2021 on a range of mathematical and reading and writing competencies.

The [study](#) is the largest of its kind in South Africa. It investigated the performance of about 80,000 learners, aged between nine and 15 years, in each of the three grades, across both poor and rich schools in the Western Cape province. The size and range of the sample makes it likely that the results will generally hold for South Africa as a whole and for learners in all grades.

A conservative estimate from the results is that learners have fallen 40% to 70% of a school year behind earlier cohorts in language learning and much more – 95% to 106% of a school year – in maths.

The greater losses in maths are consistent with [international findings](#). This possibly stems from the more specialised nature of the subject and greater need for it to be formally taught, face to face.



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Learning is a cumulative process and in language and maths this is especially critical as each year of learning sets up the building blocks for the next year of learning. If children lose out on learning essential knowledge and skills for reading and writing they will struggle in all subjects where they have to read, interpret texts and express their understanding in writing.

Similarly, maths has its own specialised language and concepts that build progressively over grades. If learners lose out on basic concepts and skills, their later learning will be compromised as mathematical problems and contexts become more complex.

Learning losses

Our study found that the greatest losses on the language test were at the grade 6 level. This is probably linked to learners being exposed less to the language of teaching and learning in the two previous years. Most South African learners are taught in their home language in the foundation phase (grades 1-3). From grade 4 onwards, they are taught in English for all subjects (except their home language). The pandemic has made this difficult language transition even more difficult.

We analysed language results in relation to reading comprehension, writing and vocabulary. Although there is cause for concern across the three areas, learners performed particularly poorly in writing tasks at the grade 3 and grade 6 levels. Declines in vocabulary knowledge were particularly acute at the grade 6 level. This could partly be attributed to a lack of exposure to print material and vocabulary instruction. It would be worse for those learners who had changed to a different language of instruction in grade 4.

In mathematics, learning losses were severe across all three grades. The results illustrate how learning losses in this subject are compounded as learners move up the grades, resulting in the poorest performances at grade 9 level.

In “Number, Operations and Relationships”, the most fundamental content area, the average mark for grade 3 learners dropped from 57% in 2019 to 48% in 2021. Learners are struggling with routine addition and subtraction problems and simple fractions. They also struggle with simple word sums.

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Learning losses in “Number, Operations and Relationships” were apparent in grades 6 and 9 as well, and evidently led to poor performance in other areas, most notably in “Measurement”, where basic number knowledge is applied.

In grade 9, the biggest proportion of the curriculum is spent on “Patterns, Functions and Algebra”. Yet average marks for this area dropped below 40% for grade 9 learners in the 2021 test. Grade 9 learners are struggling to grasp basic principles of algebraic language.

Curriculum areas to prioritise

It is clear that schools need to allocate more time for language and mathematics. Where feasible, time allocations for other subjects could be reduced or non-core subjects suspended or integrated into other subjects.

Existing timetables could be used more efficiently. Suspending tests and homework in other subjects would free up time to focus on language and maths.

These curriculum areas should be prioritised:

- Reading, writing, number and measurement in the foundation phase
- English first additional language in the intermediate phase (children aged 9 to 12 years), especially writing and vocabulary
- In the senior phase (ages 13 to 15), proficiency in routine operations with whole numbers, fractions and basic algebra.

For at least the next three years, priority should be given to mastering the skills and concepts that are necessary for progression in learning. “Stand alone” topics in social science for example can be left for later grades.

Going forward

Teachers need assistance with diagnostic tests – not only administering them but also analysing the results and planning on the basis of outcomes. They also need support in providing opportunities for learners to catch up previous grades’ content.

The [Presidential Youth Employment Initiative](#) allows for young “educator assistants” to help teachers in classrooms. Phase 3 of the initiative began in April 2022. These assistants should now focus on assisting individual children with mathematics and language. Their sole task could be to work through the previous year’s Department of Basic Education [Rainbow Workbooks](#) developed for each grade. This would provide learners with one-on-one tuition to catch up to required levels of competence in language and mathematics.

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