

EDUCATION IN SOUTH AFRICA:

Challenges and Opportunities



“South Africa’s education system is in crisis, with several critical areas of underperformance.”



Background

South Africa has achieved almost universal grade 1 enrolment. However if we look beyond access to learning outcomes, it is clear that the system is failing, the vast majority of children.

Most learners in South Africa (77%) attend no- or low-fee quintile 1 to 3 schools, which produce the poor outcomes the South African education system has become notorious for.

After a year in grade 1, half of children in no-fee schools do not know the letters of the alphabet (Wills et al., forthcoming), and cannot add and subtract single digit numbers (Spaull et al., forthcoming). By grade 4, only 22% can read (Howie et al., 2017), and by grade 5, only 37% have acquired basic mathematical knowledge (Reddy et al., 2022).

Children who miss out on developing foundational skills during their first few years of schooling often fall behind and do not catch up (Silberstein, 2021). Many learners in South African schools repeat grades, costing the system over R20 billion¹ a year (Van der Berg et al., 2019), and around half make it to matric. Of these, only 47% pass and just 14% achieve bachelor passes (required for enrolment in university). Just 1% achieve over 65% for maths.

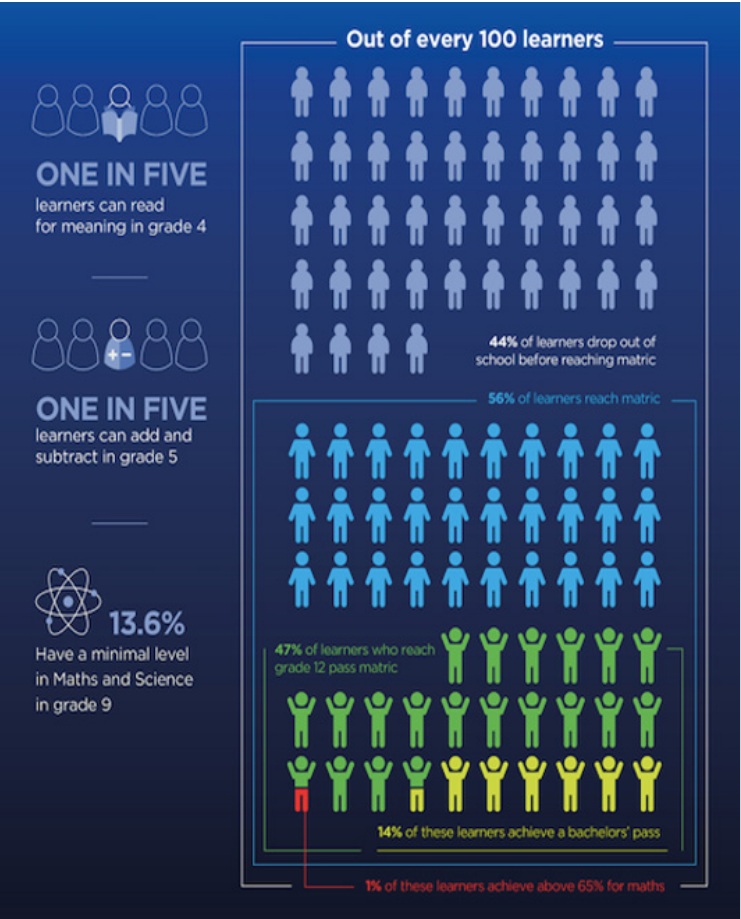


Figure 1: Pre-COVID learning outcomes for quintile 1 to 3 learners (Olivier, 2021).

These abysmal learning outcomes are not entirely due to a poorly functioning education system. Household living conditions are key determinants of learning, and an extended period of poor nutrition during a child’s initial years can result in youngsters being behind (Gustaffson et al., 2020). When they begin grade R, only 35% of children have the right foundations in place when it comes to physical growth, early learning, and socio-emotional functioning (Giese et al., 2022).

The unacceptable levels of poverty, hunger and fear that impact the daily lived experiences of children in South Africa were exacerbated by the COVID-19 pandemic. In their paper on the impact of school closures, Spuull and Van der Berg (2020) point to the General Household Survey (Statistics South Africa, 2018) which found that before the pandemic, 32% of children were living in households without potable water, and almost 20% were without sanitation.

Spuull and Van der Berg (2020) present the table below to illustrate the extent to which children were under-resourced, hungry, and fearful. They also cite the Optimus (2016) study’s horrific findings: one in three young people had experienced some form of sexual abuse; 42% had experienced maltreatment of some kind (sexual, physical, emotional or neglect); and 82% had experienced criminal victimisation or exposure to violence. The abuse and violence in homes and communities spill into schools, where 71% of grade 9 learners in no-fee schools report being bullied regularly: 22% are bullied weekly, and 49% are bullied monthly (Reddy et al., 2022).

Even with the best resources, teachers and small class sizes, it would be near impossible to teach hungry and/or frightened children.

Table 1: Children who live in households with no employed adults, who experience hunger or live in areas where crime prevents them from using parks, (Van der Berg, 2020).

REGION	CHILD POPULATION 2018 ('000)	CHILDREN LIVING IN HOUSEHOLDS WITHOUT AN EMPLOYED ADULT (%)	CHILDREN EXPERIENCING HUNGER ('000)	CHILDREN EXPERIENCING HUNGER (%)	CHILDREN IN PUBLIC SCHOOLS WHO BENEFIT FROM SCHOOL FEEDING (%)	AREAS WHERE FEAR OF CRIME PREVENTS CHILDREN FROM GOING TO PARKS (%)
Western Cape	1 971	8	288	15	54	47
Eastern Cape	2 514	46	212	9	90	38
Northern Cape	436	29	73	17	83	57
Free State	1 021	35	131	13	80	35
KwaZulu-Natal	4 184	36	826	20	84	28
North West	1 382	35	284	21	80	21
Gauteng	4 186	15	345	8	55	46
Mpumalanga	1 673	29	222	13	88	39
Limpopo	2 374	41	118	5	91	15
Total	19 741	30	2 500	13	77	35

Source: Hall, K., 2019, 'Income poverty, unemployment and social grants', in M. Shung-King, L. Lake, D. Sanders & M. Hendricks (eds.), *South African Child Gauge 2019*, Children's Institute, University of Cape Town, Cape Town; Statistics South Africa, 2018a, *Marginalised groups indicator report 2018*, StatsSA, Pretoria; Statistics South Africa, 2019a, *General household survey 2018*, StatsSA, Pretoria; Statistics South Africa, 2019c, *Victims of crime survey 2018/19*, StatsSA, Pretoria.

1. In 2018 rands.

Despite these challenges, in recent years the education system was showing small, yet steady improvements (albeit from an extremely low base). All the international benchmarking assessment studies in which South Africa participates found gradual improvements in literacy, mathematics and science, until 2019 when the Trends in International Mathematics and Science Study (TIMSS) shows a flatlining on improvement (Reddy et al., 2020).

In 2020, the disruption to schooling caused by COVID-19 wreaked devastating learning loss, eroding the equivalent of 6.5 years of progress (Spaull, 2022). Today, the average 10-year-old knows less than the average nine-year-old in 2021 (Spaull and Taylor, forthcoming), and the Department of Basic Education has neither a plan nor allocated budget for addressing this (Spaull, 2022).

The ability to read, write and calculate is not only a basic human right, but at a population level, research presented by Obiakor and Newman (2022, citing Hanushek, 2015) shows a strong relationship between foundational skills and economic growth rates across countries. Without the foundational skills developed in early schooling, 'young people cannot access further training and employment that requires higher order thinking and will be excluded from the benefits of a future of work' (World Bank, 2019, cited by Obiakor and Newman, 2022).

While unemployment and underemployment are usually more a result of a lack of jobs than a lack of skills, skills are a necessary (albeit insufficient) condition for growth, with learning levels accounting for 'between a fifth and half of between-country differences in income' (Agrist et al., 2021, cited by Obiakor and Newman, 2022).



Binding constraints

There are multiple factors that contribute to poor learning outcomes, many of which are beyond the reach of what happens in schools and classrooms. However, there are issues within the formal education system blocking reform. These include limited resources, teacher content knowledge and pedagogical skills, the power of teacher unions, and a rising tide of teacher retirements.

South Africa's investments in education are substantial – more than 6% of GDP. However, 80% of this goes to personnel, which leaves little for infrastructure backlogs, learning and teaching support materials, and interventions to improve learning outcomes.

South Africa's teacher salaries fall into the 70th to 75th percentile of formal sector pay (Shepherd and Spaull, 2022), and are growing at a faster rate than education budget allocations² (Ntaka, 2022). Changing this is not politically viable; teacher unions' undue influence has historically compromised post provisioning, salary negotiations, and the implementation of accountability mechanisms (Van der Berg et al., 2016).

Teacher content knowledge is a serious problem: only 37% of grade 6 reading teachers and 41% of grade 6 maths teachers have subject mastery³ (Spaull and Courtney, 2022). A contributing factor to this is Bachelor of Education (BEd) students' levels of achievement in matric: they are far less likely to have written maths (as opposed to maths literacy) than students of other fields, and those who have, perform poorly (achieving an average 41%) (Pampallis, 2022). Seventy-five percent of BEd applicants perform at only the basic level of quantitative literacy in the National Benchmark Tests (Roberts and Molo, 2022).

Half of the public sector's teachers are over 50 years old and will retire in the next five to 10 years. It is anticipated that almost double the number of teachers will leave the system in 2029 than they did in 2013 (Van der Berg and Gustafsson, 2022). This retirement wave is rising at the same time as the learner population is increasing.⁴ In order to achieve an average learner:educator ratio of 27.4:1, the teacher headcount will need to increase by 15.8% (necessitating over 42 000 additional teachers) (Spaull, 2022a).

-
2. P Ntaka, Research on Socio-Economic Policy, Teacher Demographics Policy Dialogue, 'The Public Service Co-ordinating Bargaining Council (PSCBC) Resolution 1 of 2018, which resulted in the notches of salaries of educators shifting from a 1% notch increase to a 1.5% notch increase', 2022.
 3. As established by the recent Southern and Eastern Africa Consortium for Monitoring Educational Quality study.
 4. By 5.6% between 2021 and 2030 due to population increases, and if learner retention rates continue to improve, enrolment is projected to increase by 6.2% over this period (N Spaull, 2022a).

The solution to this is unfortunately even more complex than producing large numbers of new teachers. In fact, universities have significantly increased the numbers of teachers they have been producing since 2016 (Ntaka, 2022). The good news is that younger teachers tend to have better content knowledge than their older colleagues, especially when it comes to maths (Spaull and Courtney, 2022).

Unfortunately, due to budget constraints, provincial education departments have not increased their hiring, which has led to larger learner:educator ratios over time (Ntaka, 2022). While producing more educators is indeed part of the solution, it needs to be coupled with provinces hiring the teachers being produced. But given fiscal austerity, provinces are instead freezing posts, starting with key positions such as heads of department (HODs) and deputy principals (Ntaka, 2022; Spaull and Ntaka, 2022).



Opportunities

The education ecosystem is burgeoning with interventions by corporates, foundations, and civil society trying to make a difference. However, with the relatively tiny ticket sizes of philanthropic and corporate giving, only the public sector can fund at the scale required for real social change.

The proposed solution, currently touted in grant-making and research circles, is to use private funding to test models, measure impact, produce evidence and then hand over to the government to implement at scale. Unfortunately, this is yet to materialise effectively in education, and interventions tend to either be large-scale with low impact, or small-scale with varying levels of impact at a much higher cost.

In the soon-to-be-published volumes on early grade literacy interventions in South Africa, Spaul and Taylor (forthcoming) present two types of interventions in South Africa: large-scale trickle-down interventions and those that are small-scale and bottom-up.

Examples of large interventions working with over 1 000 schools include the National Education Collaboration Trust's Primary School Reading Improvement Programme and Jika iMfundo Programme to Improve Learning Outcomes (PILO) initiatives.⁵ These typically involve train-the-trainer models, for example by leveraging subject advisers and/or lead teachers or HODs who then train teachers. They tend to be low-cost in that they generally work within existing budgets and with existing personnel.

Given the very light touch (e.g. each PILO coach is responsible for 110 schools; i.e. >1 000 teachers), the impact of these interventions is questionable and they are seldom evaluated (Spaul and Taylor, forthcoming).

There is no evidence that teacher training results in improved learning outcomes for learners. We do know that providing teachers with coaches can lead to small but significant gains (Taylor, 2017), and that larger gains are achieved when teachers receive in-classroom support from well-recruited, trained and mentored teaching assistants (TAs) (Ardington and Henry, 2021).

Given that learning deficits and within-class heterogeneity have been exacerbated by learning loss (Olivier, 2021), it stands to reason that in-classroom interventions that increase direct support to learners are needed. Unfortunately, the interventions that serve learners directly tend to be small, with few serving more than 50 000 learners. Those with higher learner reach achieve this through educational technology (ed-tech) and/or collaborative coalitions comprising a number of organisations as implementing partners, often with government partnerships (Olivier et al., 2022).

Two inspiring examples of ed-tech initiatives with impressive learner reach and impact are Click Learning and Gradesmatch. Click delivers literacy and numeracy ed-tech programmes to 140 000 learners in grades R to 7. Click partners with schools and five provincial government departments, and establishes and maintains computer labs in over 200 schools where learners work through ed-tech applications during

5. The National Education Collaboration Trust is implementing the Primary School Reading Improvement Programme and Jika iMfundo Programme to Improve Learning Outcomes initiatives.

school hours. Click is also currently disrupting literacy assessments through its eQuiz, an online standardised assessment that is radically faster and cheaper than the paper-based assessments the sector has been relying on to date (Olivier et al, 2022a).

Gradesmatch is a career guidance application that assists learners with figuring out their eligibility for tertiary studies and applying to institutions and for financial aid. There are currently over 370 000 learners on the suite of applications from all provinces who receive individualised career guidance support. The initiative has unlocked over R154 million through the National Student Financial Aid Scheme.

Examples of collaborative partnerships are those established by after-school programmes, such as the Catch-Up Coalition coordinated by the Learning Trust, and YearBeyond, coordinated by the Western Cape government's Youth and After School Programme Office (YASPO).

The Catch-Up Coalition comprises over 35 after-school programmes working directly with 3 300 young people delivering a range of educational and enrichment programmes to 52 000 learners to keep them engaged in schooling (with a view to preventing drop-out and improving earning outcomes). The Coalition is working together to build the capacity of community-based organisations; coordinate monitoring, evaluation and learning; conduct research and advocacy; scale working practices; and measure collective learning and employment outcomes.

Teacher Internship Collaboration South Africa (TICZA) is a collective impact project that aims to promote alignment and partnership between government, private and third sector organisations to produce knowledgeable teachers, improve teacher retention, and reduce teacher shortages. The convening group of TICZA (JET Education Services, Trialogue, BRIDGE and the Bertha Centre) partners with implementers to understand the quality and efficiency of programmes through data and evidence-based practice; explore which mutually-reinforcing activities would unblock systemic challenges; and assess whether, how, and to what extent government policy and practice should change or augment to support teacher interns.

YearBeyond supports 16 000 grade 3 and 4 learners with literacy and numeracy. Previously unemployed youth are trained and supported to deliver the programme, as well as with life skills and career guidance. The programme is spearheaded by YASPO and implemented in collaboration with numerous government departments, schools and non-governmental organisations as implementing partners. It is enabled by a combination of philanthropic and public funding.

A recent innovation from the public sector holds promise for shifting both learning and employment outcomes. The Presidential Employment Stimulus has seen over R20bn invested in short-term employment opportunities for the previously unemployed. The funds are disbursed through a number of initiatives, including the Basic Education Employment Initiative, which employs hundreds of thousands of young people as TAs; the National Youth Service, which provides stipends to young people volunteering in a range of sectors; and the Social Employment Fund, which provides stipends to volunteers working in the social sector.

This opportunity has been leveraged by numerous education and youth development initiatives, and while it is too early to measure the impact on learners' results, the initiative has delivered on over two million job opportunities to the previously unemployed – mostly young people.

Investec's contribution and opportunities for the future

Investec's Promaths has made a significant contribution to South Africa's national distinctions: 5% in maths and 6% in science in 2020 and 2021 (Investec, 2021). In response to school closures, Promaths partnered with Kutlwanong and Tuta-Me to launch an online offering to 4 000 learners (including 1 948 matrics) with 75 teachers joining as facilitators. Investec carried the cost of reverse billing for data, along with some of the major network providers (Investec, 2021).

Given the success of Promaths online (where the programme delivered results similar to those achieved with the face-to-face model), is there scope to scale up to reach many more learners with this new approach?

Investec also addresses youth unemployment through its investments in learnerships (in finance, digital and multimedia professions, artisans and teaching assistants), and in emerging entrepreneurs (through its partnership with Startup School). The Youth Employment Service initiative, in which Investec plays an important role, was arguably a test case for the Presidential Employment Stimulus.

How can these success stories be scaled up so they can make a dent in the national youth unemployment statistics? And how can this new workforce be more strategically leveraged to improve education outcomes for learners?



Conclusion

The extent to which South Africa's education system is broken is overwhelming. Yet despite the depth and breadth of the problems, there are many opportunities to make a significant difference. Investec's Promaths is a good example. Although it serves fewer than 2 000 matric learners, the programme's contribution towards national matric maths and science distinctions is significant because so few learners achieve at this level.

However, if South Africa is going to make strides in decreasing inequality and stemming skills shortages, we need to ensure that not just a few thousand, but rather hundreds of thousands, and eventually millions of learners are able to read for meaning, calculate with confidence, and eventually matriculate with decent results in key subjects. The 2030 Reading Panel Background Report notes that in order to overcome the current status quo such that 90% of 10-year-olds can read would require 'nothing short of a sustained countrywide overhaul of the education system' (Spaull, 2022).

Until this is achieved, the country is haemorrhaging its talent; and rather than becoming innovators, business owners, scientists and Investec clients, our young people are destined to become NEETs (Not in Education, Employment or Training). We have no choice but to leverage our resources, best thinking, influence, and commitment to turn this around.

References

C Ardington and J Henry, Impact Evaluation of Funda Wande Teacher Assistant IC Ardington and J Henry, Impact Evaluation of Funda Wande Teacher Assistant Intervention in Limpopo Province, SALDRU, University of Cape Town, Cape Town, 2021.

S Giese et al., Thrive by Five Index Report, Innovation Edge, Cape Town, www.thrivebyfive.co.za, 2022.

M Gustaffson and C Nuga Deliwe, How is the COVID-19 pandemic affecting educational quality in South Africa? Evidence to date and future risks, Insight Brief, National Income Dynamics Study – Coronavirus Rapid Mobile Survey, 2020.

SJ Howie et al., PIRLS LITERACY 2016: South African Highlights Report, Pretoria: Centre for Evaluation and Assessment, 2017.

Investec, Build on Strong Foundations: Group Sustainability and ESG Supplementary Report 2021, 2021.

P Ntaka, Are provinces hiring the additional teachers that universities produce?, Research on Socio-Economic Policy (RESEP), University of Stellenbosch, 2022.

T Obiakor and K Newman, Education and Employability: The Critical Role of Foundational Skills, RISE Insight Series, 2022/048, 2022.

J Olivier, After School Programmes: The Investment Case 2021, The Learning Trust, Johannesburg, 2021.

J Olivier et al., Funding After School Programmes in South Africa, Independent Philanthropy Association of South Africa, Cape Town, 2022.

J. Olivier et al., Using technology to improve English literacy: The case of 'Reading Eggs' in South Africa 2012-2021. Oxford University Press Southern Africa, Cape Town, 2022a

I Pampallis, What are the matric marks of those entering ITE programmes?, RESEP, University of Stellenbosch, 2022.

V Reddy et al., The South African TIMSS 2019 Grade 5 Results: Building Achievement and Bridging Achievement Gaps, HSRC Press, Cape Town, 2022.

N Roberts and Q Moloi, The Quality of Primary Mathematics Teacher Preparation in SA: Findings from PrimTEd, RESEP, University of Stellenbosch, 2022.

D Shepherd and N Spaul, Where do teachers fall relative to others in the labour market?, RESEP, University of Stellenbosch, 2022.

J Silberstein, Measuring, Visualising, and Simulating Solutions to the Learning Crisis: New Evidence from Learning Profiles in 18 Countries, 2021/029, 2021.

N Spaull and S Van der Berg, Counting the cost: COVID-19 school closures in South Africa and its impact on children, South African Journal of Childhood Education 10(1), a924, 2020.

N Spaull, 2022 Background Report for the 2030 Reading Panel, Cape Town, 2022.

N Spaull, Teacher production, class size and learner population growth: How many teachers will be required for South Africa to maintain or reduce LE ratios given increases in learner numbers?, RESEP, University of Stellenbosch, 2022a.

N Spaull and P Courtney, Teacher knowledge and teacher age: What are the levels of in-service teacher knowledge?, RESEP, University of Stellenbosch, 2022.

N Spaull and P Ntaka, To what extent are provinces freezing HOD and Deputy Principal posts to cope with budgetary pressures?, RESEP, University of Stellenbosch, 2022.

N Spaull and S Taylor (forthcoming), A Typology of Early Grade Reading and Mathematics Interventions in South Africa; in N Spaull and S Taylor (ed), Large Scale interventions to improve early reading and mathematics in South Africa, Oxford University Press.

N Spaull, P Courtney and J Qvist (forthcoming), Back to the Beginning: Growing class sizes and stagnating mathematics learning outcomes in TIMSS South Africa (Grade 5, 2015-2019); in H Venkat and N Roberts (eds), Early Grade Mathematics in South Africa, Cape Town: Oxford University Press.

S Taylor, Early Grade Reading Study Technical Report, Department of Basic Education, Pretoria, 2017.

S van der Berg et al., Identifying Binding Constraints in Education: Synthesis Report for the Programme To Support Pro-Poor Policy Development (PSPPD), RESEP, University of Stellenbosch, 2017.

S van der Berg et al., The Cost of Repetition in South Africa, RESEP, University of Stellenbosch, 2019.

S van der Berg and M Gustafsson, How many teachers will retire by 2030?, RESEP, University of Stellenbosch, 2022.

G Wills et al. (forthcoming), What do we know about foundational skills in early grade home language reading in South Africa? Empirical evidence from EGRA studies 2015-2021; in N Spaull and E Pretorius (eds), Early Grade Reading in South Africa, Cape Town: Oxford University Press.