





SA-TIED – Operation Vulindlela

GTAC Webinar

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# Presentation goals

- Overview the State of Education
- Propose targeting learners who reach university but are unlikely to finish:
  - Those on the threshold of becoming tax-paying adults
  - → Early gaps in literacy and numeracy often explain why they fall short
- Nine Key Policy Recommendations
  - Drawn from DBE, DHET, and global/local evidence
- Distribute slides for future quick reference

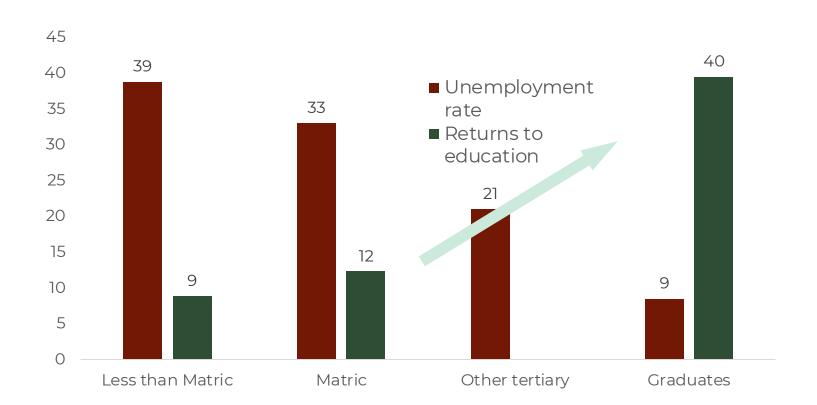


# Part 1: State of Education in South Africa

## Steeply convex returns to schooling & the marginal approach to ed for growth

Marginality

#### Unemployment rate & return to education by education level

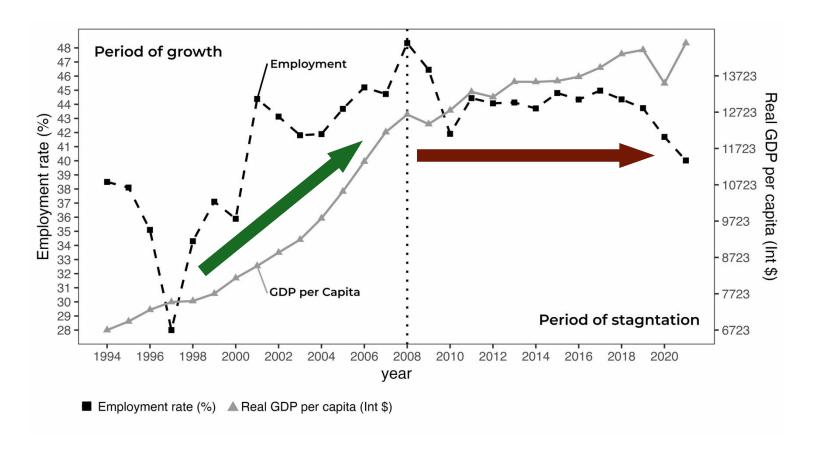


Source: Author from StatsSA QLFS 2023 & Montenegro & Patrinos (2014)
Returns to education are calculated as the percent income increase on no education only amongst the employed

- Employment should be the primary aim of education policy.
- A year of schooling without matric offers no income or employment return (Broekhuizen, 2013). The GEC might change this.
- Returns to university remain far higher than matric, and are increasing (Köhler, 2025).
- To expand the tax base and make education fiscally sustainable, focus should shift to those on the cusp of completing university.
- South Africa ranks among the top five countries for returns to education (Montenegro & Patrinos, 2014).

Growth

#### SA has only experienced job growth during rapid GDP growth

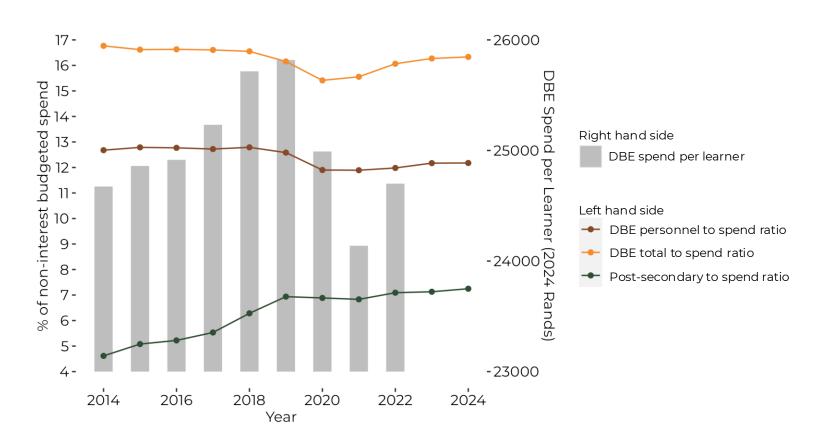


Source: Author from Statistics South Africa National Estimates World Development Indicators database, World Bank 2021 International Dollar, Eurostat-OECD PPP

- Growth policies are often criticised as non-inclusive, yet South Africa's only real employment growth coincided with rapid GDP per capita growth (1998-2008).
- A self-sustaining education system that leads to employment and taxation is vital for average South Africans' welfare.
- Human capital is now widely recognised as the primary driver of long-run growth (Hanushek & Woesman, 2021).

Budgetary

#### National education expenditure overview 2014 - 2024



Notes: 2023 and 2024 learner enrolment numbers are not yet available.

Unbudgeted wage bill negotiations are not accounted for in the figure.

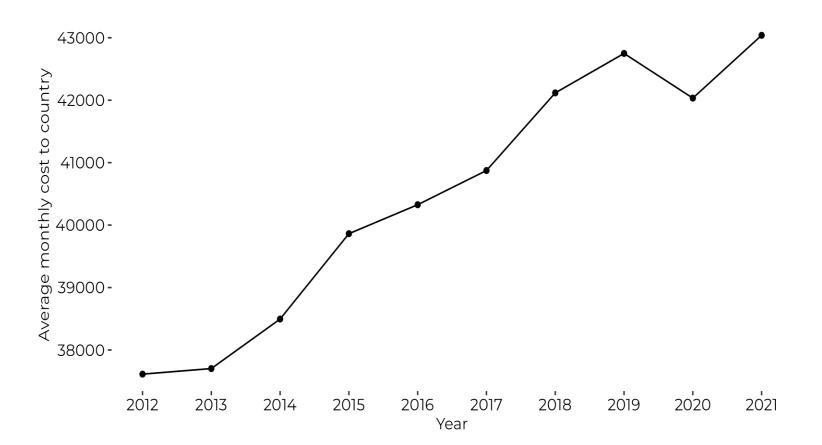
Source: Author from National Treasury (2014-2024) & DBE (2015-2023)

#### Description

- Basic education budget declined slightly from 16.8% to 16.3% of non-interest expenditure, now rising due to Grade R expansion.
- Post-secondary education budget grew from 4.6% to 7.2% of non-interest expenditure, a 56% increase
- Per-learner expenditure returned to 2014 levels (R25,000 in 2024 Rands) by 2022
- South Africa spends 30% more on education as a percentage of total expenditure than the average Upper Middle-Income country (UNESCO, 2022)

Educators

#### Cost to country of South Africa's educators (2021 Rands)



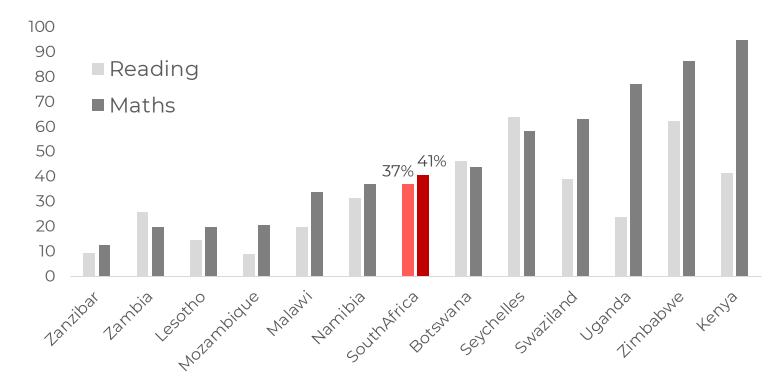
Notes: 2017 interpolated Source: Author, Payroll data: PERSAL, enrolments: DBE (2013 – 2022), CPI: Stats SA

#### Discussion

- Educators earned **R43,000pm in 2021** vs R38,000pm in 2012 (in 2021 Rands), including benefits
- Top 3% of South Africans earned R42,500pm in 2014 (2021 Rands) (Woolard, Bassier, 2021; SARS data)
- P Educator salaries increased 66% in real terms between 2007-2021 (Sachs, et al., 2022)
- South African educators are paid 5x GDP per capita vs max 2x in OECD countries, average just over 1x (OECD, 2011)
- Evidence shows **increasing salaries doesn't improve learning** (de Ree et al., 2015); decreasing salaries doesn't impede it (Bau and Das, 2020)
- Lower-paid contract teachers internationally outperform permanent and/or unionised teachers (Duflo et al., 2015)

Educators

# Percent of Grade 6 educators achieving mastery in their subject in SACMEQ IV (2013)

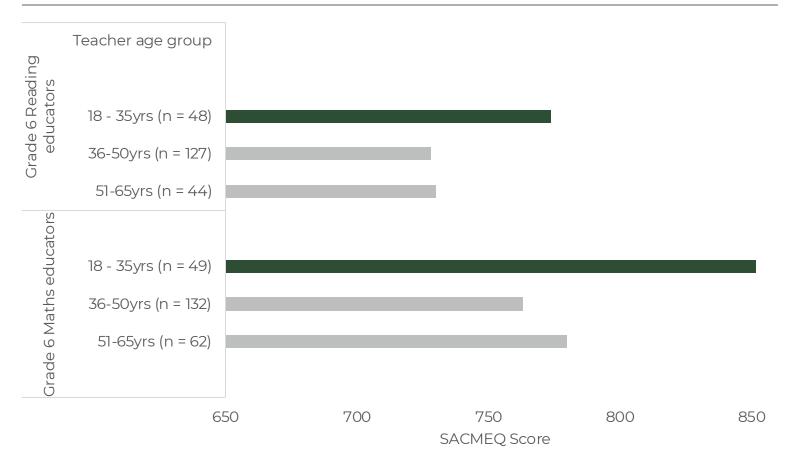


Source: Author from Awich (2021)
These data are learner-weighted, such that they technically represent the % of learners with teachers reaching mastery

- Subject mastery is likely prerequisite for effective teaching
- South African teachers have poor content knowledge, even compared to less developed African countries
- South African learners underperform even relative to our low teacher content knowledge (DBE, 2013)
- Over 60% of Grade 6 Maths teachers have content knowledge below Grade 6/7 learner standards in international exams (Van der Berg et al., 2016)

Educators

#### Educator content knowledge in SACMEQ (2013) by age



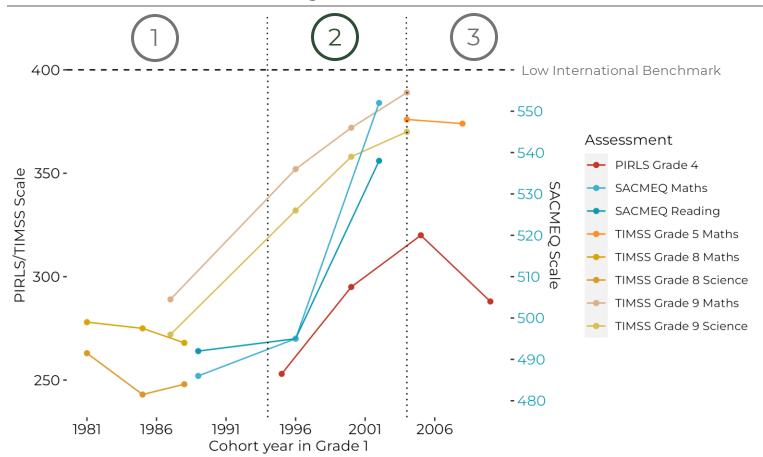
Notes: these results use raw scores unadjusted for complex sampling Source: Author from SACMEQ IV (2013)

- Teacher knowledge gap between over/under 35s exceeds the gap between Eastern and Western Cape, the provinces with greatest disparity (Van der Berg, et al., 2016).
- Younger teachers replacing older cohort will raise average content knowledge but SA will still remain low for a middleincome country.
- OSD fails to incentivise retention of educators who improve learning outcomes as intended.
- OSD notches instead incentivise older teachers to remain.

# South Africa has experienced three phases of learning

Learning

#### Maths, Science, & Reading outcomes in international exams



Notes: This figure follows the cohort at entrance to Grade 1, not year of assessment 2011 PIRLS result corrected per Gustafson (2020)

IEA does not validate the intertemporal comparability of the pre-democracy cohorts Source: Adapted from Gustafsson & Taylor (2022, 20). Data from PIRLS (2005, 2011, 2016, ,2021), TIMSS (1995, 1999, 2007, 2011, 2015, 2019), & SACMEQ (2000, 2007, 2013).

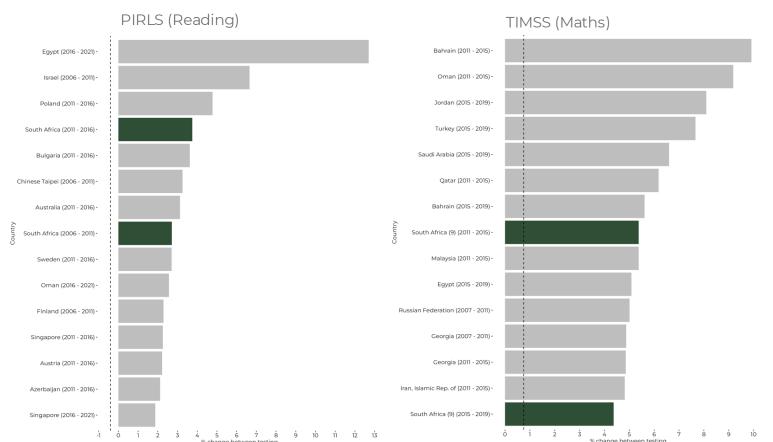
#### Phases of learning

- Pre-democracy stagnation
- 2 Decade of Rapid Improvement
- Pre-pandemic Stagnation and pandemic learning losses
- South Africa's rapid & exceptional education success period warrants celebrating
- Yet, success was short-lived, never exceeding Low International Benchmark (400 PIRLS/TIMSS points)
- This benchmark represents
   "reading for meaning" and
   "calculating with confidence" in
   foundation phase

# South Africa's Decade of Improvement was exceptionally rapid

Learning

#### 15 fastest periods of improvement in PIRLS and TIMSS



Notes: Grade 9 TIMSS (a year above other countries) & grade 4 PIRLS assessments shown.

Dashed lines indicate average improvement per period: -0.41% for PIRLS, 0.75% for TIMSS. Only periods consecutively tested are included.

Improvement is shown as a percentage of IRT scores as assessments are comparable across intuitive measure than SDs. See "How Standard is a Standard Deviation"

Source: Author from (TIMSS 1995 - 2019) & PIRLS (2001 - 2021)

periods, a more

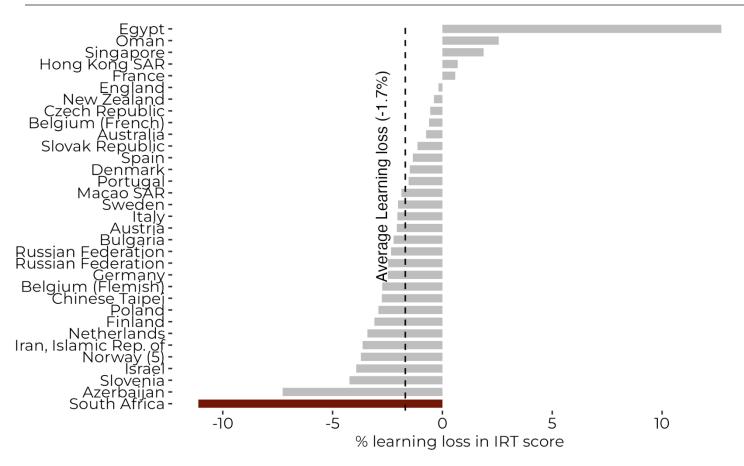
#### Discussion

- South Africa's decade-long improvement (period ②) was worldleading.
- We approached the systems-level improvement "Speed Limit" (Gustafsson, 2019).
- Amid education pessimism, important to note we have achieved and can again achieve substantial improvements.
- Improvements likely due to ambitious system-wide reforms like
   School Nutrition Programme and Rainbow Workbooks.
- Despite laudable progress, unclear if these were "low-hanging-fruit" improvements with potential stagnation at higher learning levels.
- Poland and Vietnam have achieved faster improvement from higher starting points.

# South Africa had the largest learning losses in PIRLS over the pandemic

Learning losses

#### PIRLS 2016 -2021 learning losses



Source: Author from PIRLS 2016 and 2021

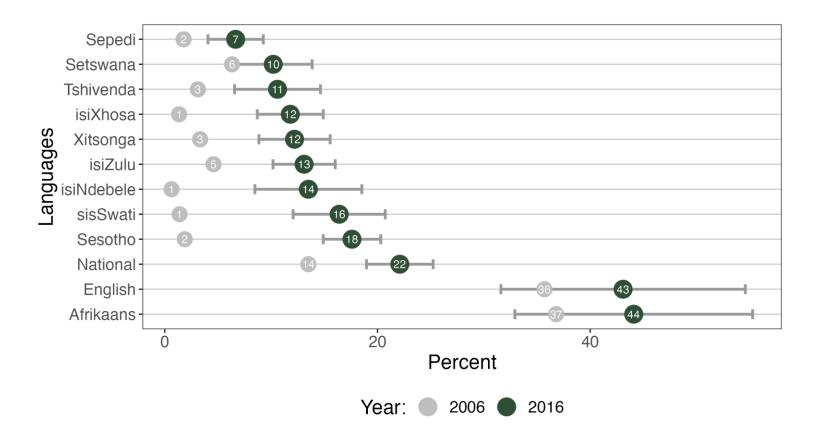
#### Discussion

- Pandemic erased ~10 years of learning progress
- South Africa suffered largest IRT point loss among countries, from already lowest base
- Testing validity concerns affect international comparison reliability
- Results not solely pandemicattributable, but cross-country comparisons remain mostly robust with caveats
- Pre-Covid stagnation signs appeared in 2019 TIMSS Maths Grade 5
- No other nationally representative, psychometrically valid pre/postpandemic assessments exist for South Africa

# African language learners improved fastest amid great inequality

Inequality

#### Percent reaching the low international benchmark in PIRLS



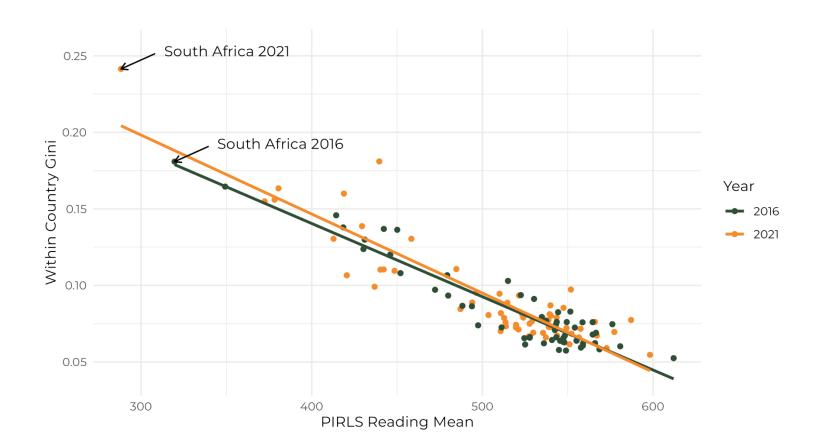
#### **Implications**

- African language learners improved substantially between 2006 and 2016 (Mohohlwane, Mtatse, Courtney, 2023).
- English and Afrikaans showed no statistically significant improvement.
- The pandemic has erased much of this improvement & inequality reduction (Böhmer & Wills, 2023).

Notes: Error bars depict 95% confidence intervals Learners tested in Grade 4 Source: Author from PIRLS (2006 & 2016)

Inequality

## Inequality in TIMSS vs learning level



#### Discussion

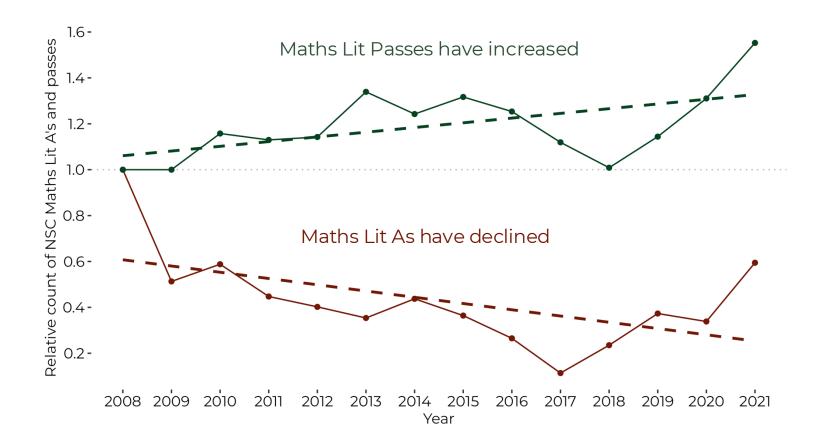
- Pre-pandemic, South Africa's learning inequality (measured with Gini) aligned with expected levels based on PIRLS scores.
- Permanence of pandemic learning losses and widened inequality remains uncertain.
- Given poor employment outcomes, raising employment levels may be more crucial than improving learning at the bottom of the distribution in South Africa's current development stage.

Source: Author adapted from Böhmer and Wills (2025)

# Squeeze at the top may have troubling employment & tax implications

Inequality

NSC Maths Lit Passes (30%) and As (80%) relative to 2008



#### Discussion

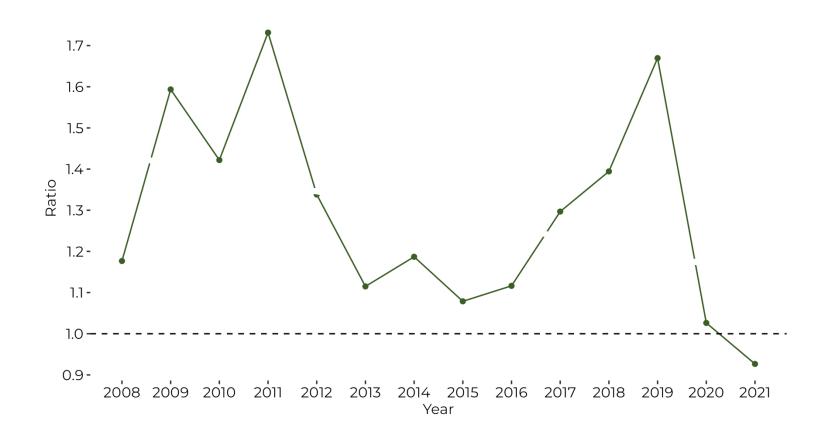
- There has been a downward trend in the number of learners achieving Maths Literacy & Maths passes as well as those achieving 60% (a common university requirement) & As (80%) with some recent turn around.
- These subjects are vital for the creation of the human capital required to expand the tax base.
- At the same time, there has been an improvement or stagnation in the number of passes (30%) for Maths lit and Maths.

Source: Author from DBE NSC data

# Capacitating a handful of schools could quickly increase Maths As

Inequality

#### Ratio of NSC Maths As in the top 200 schools to the rest



Notes: The horizontal dashed line is point where the top 200 schools produce the same number of NSC Source: Author from NSC 2008 - 2021

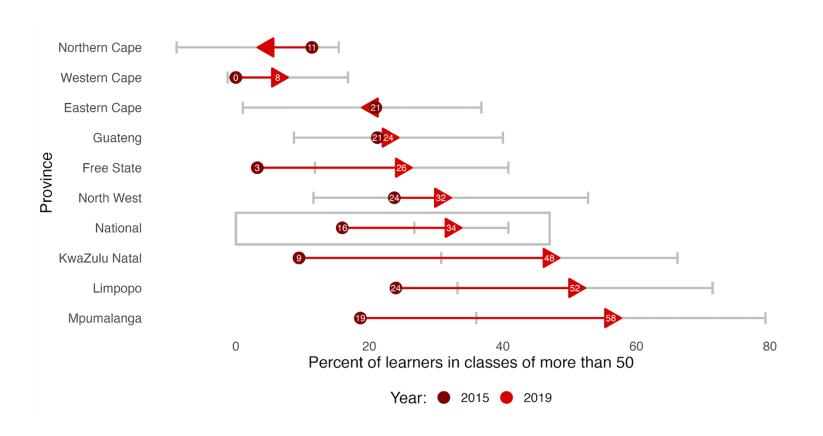
#### Discussion

- The top 200 high schools by number of As achieved produce between 0.9x to 1.7x the number of As as all other high schools combined.
- The inequality implied by this ratio has declined, but seemingly at the cost of the number of Maths As produced.
- This high concentration in schools producing As suggests that increasing enrolment in these schools, or the next 200, could quickly increase the number of Maths As produced.
- Similar inequality exists in bachelor passes.
- The SES of the school you go to matters more for learning outcomes than your own SES (Servaas & Gustafsson, 2017).

## Some subjects and grades saw growing class sizes, amid broader positive trends

Administration

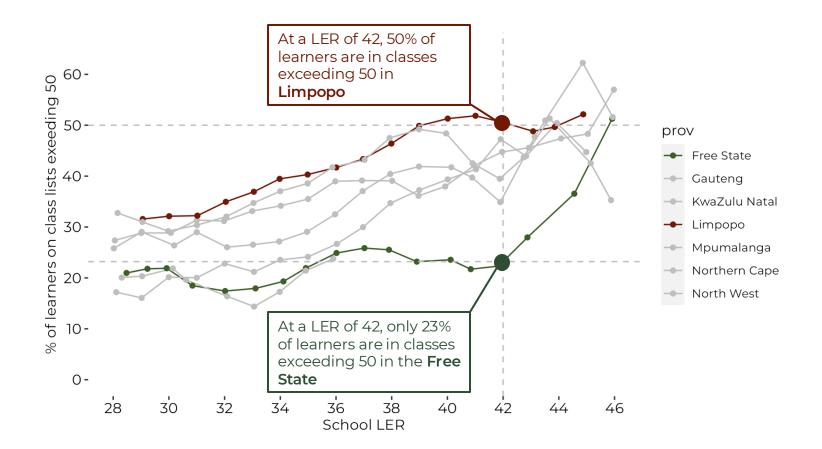
#### % of learners in class sizes greater than 50, 2015-2019 (TIMSS Grade 5)



Note: Error bars represent 90% confidence intervals Source: Author from TIMSS (2015-2019)

- From 2015-2019, Grade 5 **maths** learners in classes exceeding 50 rose from 16% to 34%.
- During this period, the national learner-educator ratio fell from 36 to 32 (learner-weighted).
- Nationally (2018-2021), the learnereducator ratio increased from 28.9 to 29.4 whilst Grade 1-7 class sizes decreased from 42.8 to 40.5 (excluding Eastern and Western Cape).
- Continuing this trend of smaller classes despite learner-educator ratios is essential.
- Improved efficiency is critical in determining additional educator requirements.

## Some provinces are able to contain class sizes at high LERs



Source: Author from DBE LURITS 2021

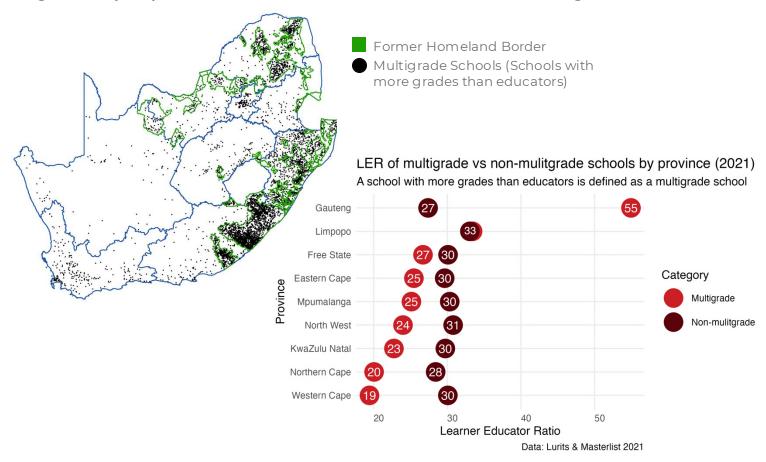
- Achieving efficiency levels of the Free State would allow reducing class sizes with fewer additional educators than anticipated
- When choosing between educator quantity or quality, the former likely has greater impact on learning
- Evidence shows class size doesn't affect learning outcomes in South Africa (Altinok and Kingdon, 2012)
- Reducing class sizes from 82 to 44 learners in Kenya yielded no learning improvements (Duflo et al., 2015), whilst classes of 54-100 learners showed no deteriorated outcomes in the Philippines or India (Datta and Kingdon, 2023)
- My calculations show that by efficiently utilising educators, SA could maintain current class sizes with 22% fewer educators.

# Former Bantu Education schools persist as multigrade schools

Administration

Left: locations of South Africa's 5359 multigrade schools (out of 24k)

Right: disproportionate educator allocation to multigrade schools



Notes: Green outlines show the former homelands Source: Author from DBE LURITS & Masterlist (2021)

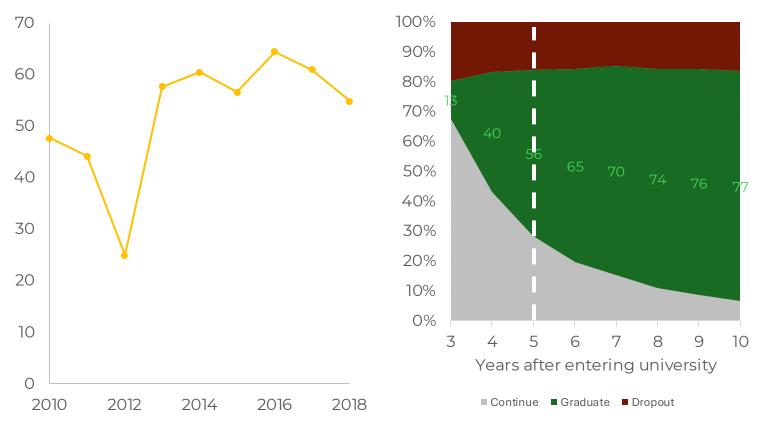
- Multigrade schools impede levelappropriate teaching
- Higher fixed costs per learner in multigrade schools, e.g. principal/learner ratios
- Multigrade schools average only 2.2km from nearest school
- Enrolment volatility suggests distance less constraining than assumed (Gustafsson, 2016)
- KZN+ beginning small school closures; data-guided approach needed
- Free State successfully closed 25% of small schools
- Multigrade learners: Eastern Cape 270k, KZN 160k, Limpopo 130k
- My Research Rationalising micro, multigrade & under-subscribed schools in South Africa (2025) shows up to 2000 schools closable without increasing walking distances

# NSC results are likely predictive enough to rationalise NSFAS

PSET

Left: % of NSFAS entrants graduating 5 years after entering (2010-2018)

Right: % of NSFAS 2013 cohort continuing, graduating, and dropping out



Source: Author from DHET (2023)

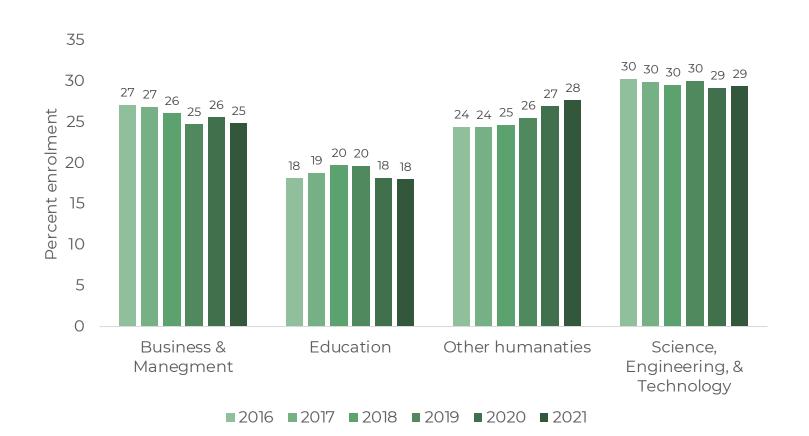
The cumulative number of dropouts declines in the original data. This is theoretically impossible unless rejoining dropouts are not counted as new entrants, but removed from the count of dropouts.

These data follow learners who at some point received the bursary, it does not imply that they receive the bursary in the years given.

- Entrance and noncompletion/funding cessation creates political discord, as seen in "FeesMustFall" (2015)
- No evidence of economic returns for entering but not completing university
- NSC & NBT results likely predict learners unlikely to graduate within bursary timeframe
- NSFAS awards cover degree duration plus 2 years; 44% don't graduate within 5 years, 35% within 6 years (maximum receipt period)
- Historically, long tail of learners remained NSFAS-enrolled 10+ years after first receipt (De Villiers et al., 2013); recent data unavailable
- Universities incentivised to admit those unlikely to complete

PSET

#### Percent enrolment in CESM categories 2016-2021



## **Implications**

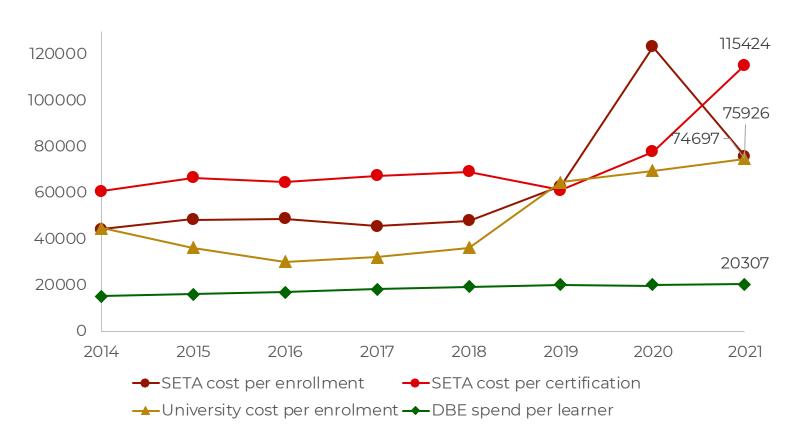
- 1-in-5 university learners is enrolled in an education program and half are enrolled in a humanities programme.
  - Is this adequately reflective of the skills shortages in South Africa?
- The humanities are growing and absorbing enrolment from disciplines with a likely higher public return on investment.

Source: Author from Department of Higher Education (2021)

# Do Skills Development Learners cost the country more than universities?

**PSET** 

#### SETA & University cost per learner enrolled and certified



Notes: University costs include the NSFAS bursary (National Treasury Budget Review, 2014-2022) plus the DHET (2021) Public Higher Education Institute funding estimate.

Enrolments, and certification numbers from the Department of Higher Education & Training (2021) SETA disbursed values from the Department of Higher Education & Training (2021)

Values are in nominal Rands

- University enrolment typically costs less than SETA enrolment
- Compared to universities SETAs are more costly despite no research obligations and shorter programmes
- QCTO transition hasn't reduced national costs
- Non-qualifying SDL learners cost country ~R2.7b annually
- Little evidence of employment benefits or state ROI from SETA/SDL programmes
- Currently 21 SETAs with multiple concurrent obligations
- We tax employment a net R13b annually (2021/22)
  - Skills development levy: R19b; Employment Tax Incentive: R6b



# Part 2: Policy Recommendations

For:

Educating South Africa during fiscal contraction

Reducing unemployment

Increasing inclusive economic growth

Increasing the tax base

Scoping fiscal rationalisation



- Organisation for Economic Cooperation and Development (OECD). 2008. Reviews of National Policies for Education: South Africa 2008. OECD Publishing: Paris.
- National Planning Commission. 2012. National Development Plan 2030: Our future make it work.
- Department of Basic Education. 2015a. Action Plan to 2019: Towards the realisation of Schooling 2030.
   Pretoria.
- Deloitte. 2013. National Implementation of Post Provisioning: National Report
- Dell Foundation. 2013. Success by Numbers: How using data can unlock South Africa's R-12 Public School System
- Department of Basic Education. 2020a. Action Plan to 2024: Towards the realisation of Schooling 2030
- Van Der Berg, S., Spaull, N., Wills, G., Gustafsson, M., and Kotze, J. 2016. *Identifying Binding Constraints in Education: synthesis report for the Programme to support Pro-poor Policy development (PsPPd)*
- National Plan for Post School Education and Training 2021-2030 (DHET, 2021)

#### **Systemic Evaluations**

A systems-wide performance thermometer

Implement the comprehensive literacy plan outlined in Identifying Binding Constraints to Education (2016) or EGRA

#### **National Diagnostic Assessments**

Democratising high-quality assessment instruments

# Davis Tax Commission higher education funding model.

Leveraging SA's world-class institutions to streamline funding

PSET institution systems integration & rationalisation.

Data of employment prospects must drive PSET planning

Reimagining the DBE's "Focus Schools" as magnet schools of excellence

Selective public schools have outsized national impacts

# **ECD/Grade R quality assurance** should precede universalisation

Universal grade R comes with substantial risks

Re-aligning the OSD notches with their intended goal Enhancing teacher performance, incentivising excellence, and attracting top talent

Impact

# **Educator and principal professional licensure**

Commitment to educator and SMT competence

Assessment

#### Democratising high-quality assessment instruments

#### Purpose

Low-stakes, CAPS-aligned assessment tools for in class assessment for educators

Provide a **yearly bank of assessments** that are highly structured for feedback

Assessments would be provided only for Languages and Maths to emphasise the importance of these subjects

Allow learners to become familiar with testing, including MCQs

#### **Importance**

Educators are often looking for test resources as **designing**assessments is time consuming and repetitive

Current informal "test banks"
provide some teachers
assessments, but there is scope for
quality improvement

Diagnostic assessments aid educators in addressing learner and class-specific learning shortcomings

Provide learners, educators, and parents with the **information they need to improve learning** 

#### Design

Clearly delineated subsections and extensive documentation would provide learners with feedback at a topic level

Feedback should be algorithmic and easily interpretable (e.g. 30% = underperforming or "learning at a grade 3 level")

Sufficient piloting should allow for IRT principles to be roughly followed, minimising floor and ceiling effects

There should be multiple booklets that cover the entire curriculum, allowing for Diagnostics at different stages in the year

## A systems-wide performance thermometer

#### **Purpose**

South Africa participates in a number of international large-scale assessments:

TIMSS in maths and science, PIRLS in reading, & SACMEQ in maths, reading, & HIV

South Africa needs a **higher frequency of assessments across the grades** (3,6, & 9) to better understand the health of the education system

These assessment will provide a learning score that is **robust to** comparison between provinces and over time

#### **Importance**

**Current measures** of education systems level improvement **are not fit for purpose**, notably the NSC pass rate

Refocusing the system on foundational literacy and numeracy requires a measure of progress at those grades

Information of where the learning system needs assistance is crucial

## Design

The assessment should follow IRT principles, be externally monitored, and collect extensive anonymous learner information

These results will also allow robust analysis of the **determinants of learning** at the learner level

The assessments should be **coupled** with current assessment initiatives, such as the School Monitoring Survey

# 3) Educator and principal professional Licensure

Professionalisation

#### Commitment to educator & SMT competence

## **Policy & Strategy**

NDP Calls for competency assessments prior to Principal appointment (Action 59). The DBE reiterates this commitment in the Action Plan to 2024

**Endemic poor teacher content knowledge** is a central problem of South Africa's education system

A robust and centrally administered entrance exam could potentially replace the BEd or PGCE if one already has an advanced degree

## **Challenges & Solutions**

The **political appointment of principals** is particularly pernicious.
Professional examination would
mitigate the harms of this problem

**Mastery of Maths and Language** is likely a more binding constraint than pedagogical knowledge

Universities are evidently graduating underqualified educators. Requiring an educator entrance examination would place top-down pressure on degree quality

#### International experience

Teacher entrance exams are **best practice internationally**, employed by a fifth of countries (UNESCO, 2023)

**Examples** include India's Central Teacher Eligibility Test, Nigeria's Professional Qualifying Examination, and Ghana's Teacher Licensure Examination

Domestic and international **evidence** shows how important educator content knowledge is (Shepherd, 2013)

# 4) Re-aligning the OSD notches with their intended Goal

Professionalisation

Enhancing Teacher Performance, Incentivizing Excellence, and Attracting Top Talent

#### Performance

There is **no political space to reduce educator salaries** 

Currently, there are **no effective** structures to reward good performance or discharge underperforming educators.

The original **OSD notches were meant** to incentivize and compensate for measured performance, ideally learner improvement

### **OSD & incentives**

The Annual National Assessments
faced resistance in part because they
could have provided an objective
metric to benchmark teacher
performance

OSD intended to retain experienced teachers but evidence suggests experience does not correlate with learning outcomes; age negatively correlates with learner outcomes

This may imply that the system incentivises less intrinsically motivated and less capable teachers to remain in the profession

#### Content knowledge

Content knowledge is the significant capability shortfall, and it is unclear if teacher training or in work remuneration structures can improve this

Incentivising the best learners to enter the education sector is crucial for enhancing teacher quality

Pay progression is important; however, it is surprising that the **the current**OSD entrance notch for REQV14 of R23686.5p/m isn't attracting more talent

## 5) Reimagining the DBE's "Focus Schools" as magnet schools of excellence

Basic Ed Policy

Selective public schools have outsized impacts

## Pedagogical assumptions

The DBE Action Plan (2022), emphasise on robotics, coding & entrepreneurship, is **predicated on a level of maths proficiency that is unattainable** in the short term.

Universities experience high dropout rates in technical subjects not due to lack of early exposure, but due to **inadequate maths skills** 

The learning **foundation of the Fourth Industrial Revolution is still mathematics**, as evidenced by the focus on mathematics in the leading industrial nations, such as China and Singapore

The mathematics teaching capacity in South Africa is severely constrained. Focusing on gifted learners as the future industrial leadership could have outsized effects

#### **Revised focus**

Focus Schools expanded as highly selective, magnet-style schools of excellence

Educators and principals could nominate learners for entrance assessments

These schools would integrate advanced education in language and mathematics, aligning with successful international models from Vietnam, Singapore, and South Korea, & Kenya.

Formalised processes of **streaming within schools**, perhaps relying on Diagnostic Assessments, will likely also improve teaching at the right level

# 6) ECD/Grade R quality assurance should precede universalisation

Basic Ed Policy

#### Universal grade R comes with substantial risks

#### Risk

"They pretend to do the reforms that look like the kind of reforms that successful countries do, but **without their core underlying functionalities**" (Pritchett, 2011)

The Millennium Development Goal of universal basic education has been criticised for prioritising quantity of quality of education

Currently, grade R is being universalised without a deeply embedded quality assurance mechanism

**Evidence supporting the expansion of grade R is limited** and sometimes negative even in developed countries (Baker, Gurber & Milligan, 2008). Reduced caregiver exposure is a substantial risk factor.

## Mitigation

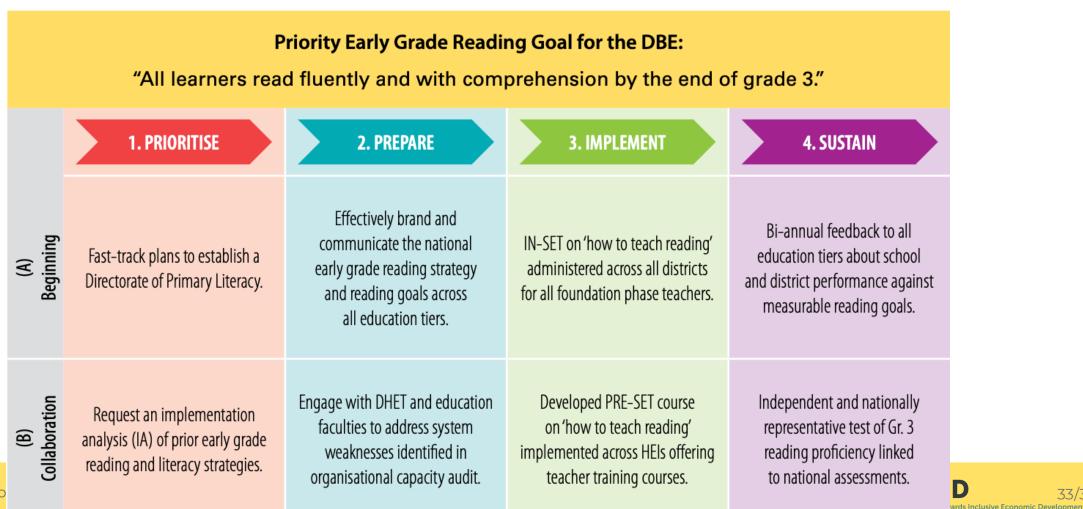
Working backwards from outcomes to policy can be more important than mimicking the appearance of appropriate policy

**Improve the evidence base** for expanding enrolment an progressively measure outcomes as ECD is universalised

Many countries **have school readiness assessments, administered by grade 1 educators**. Tracking these results and staggering rollout could provide vital information (including on stunting)

Norms and standards are important, but with capacity in the education system already spread thin, it is a concern whether ECD can be appropriately monitored

## An ambitious but realisable plan to get SA reading for meaning



# 8) Davis Tax Commission higher education funding model

PSET

## Leveraging our world-class institutions to streamline funding

## **Design & Implementation**

Leverage the banking and financial services sector to administer loans to reduce administrative burden

Integrate loans into SARS, ensuring loans are repaid and leverage tax returns to enable repayment progressivity

Recognise the **limited crowding in of private financial institutions** in the provision of education loans

#### Loans & repayments

Repayment should be income contingent. Banks could have further discretion to finance degrees with government backing

**Interest rates could be subsidised** for the missing middle

Repayment reductions or forgiveness could be implemented for those in certain sectors, such as public service

## **Hybrid financing**

A sliding scale where the poorest receive NSFAS, the missing middle receives incentivised and subsidised loans and the wealthiest pay full tuition fees

**Banks would have an ambit** to increase loans with government backing to leverage current capital

Explore additional revenue sources to support this model and ensure it is economically sustainable with minimal fiscal pressure on the government

# 9) PSET institution systems integration & rationalisation.

PSET

Data of employment prospects must drive PSET planning

Α

В

C

Standardise and Overhaul Data

**Systems:** Streamline and standardise education and training data systems (HEMIS, TVETMIS, SETMIS, HEQCIS, etc.) to eliminate duplication

Support and Expand Open Education Resources (OER): Develop a licensing framework for public-funded learning materials Promote Partnerships and Modernise Curricula: Foster partnerships with local and international technology companies and science councils to recruit expert teaching staff

Operationalise Central Applications Service (CAS): Implement CAS by 2025 to increase and streamline enrolment, ensuring a better match between applicants and PSET institutions. Enhance Labour Market
Responsiveness and Conduct Tracer
Studies: Gather and report on
occupational skills needs through the
Labour Market Intelligence project

**Expand and Improve TVET Course Offerings:** Sequence the expansion of TVET courses starting with fields like nursing and agriculture, gradually including advanced certifications

Align Educational Models and Frameworks: Re-evaluate TVET qualifications overseen by DHET and simplify the National Qualifications Framework (NQF)

Enhance and Integrate CET Colleges:
Develop comprehensive funding,
enrolment planning, and curricular
programmes for CET colleges,

Review and Optimise Skills

Development Levy (SDL): Re-evaluate
the skills levy system to better utilise
the R19 billion annual levy.

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# Overview of assessment policy reform in South Africa

Assessment

# Improvement necessitates measurement

## History of policy reform

The following assessment reform has been **central to historical reform ambitions** since at least 2011

DBE Strategic Plan 2011-2014 (2011)
National Development Plan (2012)
Action Plan to 2019 (2015)
Action Plan to 2024 (2020)
Revised Strategic Plan (2020)

Discontinuation of the ANAs and slow progress towards implementing the National Integrated Assessment (NIAF) Framework suggest moderate ambition is required

#### **Status Quo**

In the 2017 SMS, 3/4 of teachers and principals supported a national examination in grade 6.

South Africa is likely not ready for Summative Assessment due to **political and capacity constraints**. Yet, the GEC is effectively a pilot.

Diagnostic Assessments and Systemic Evaluations are **critical intermediate steps** towards National Assessments

# Immediate next steps

Diagnostic Tests in language and mathematics are politically and fiscally viable, providing a crucial first step towards the NIAF

**Systemic Evaluations** in grades 3, 6, & 9 **should follow** the Diagnostic Test rollout

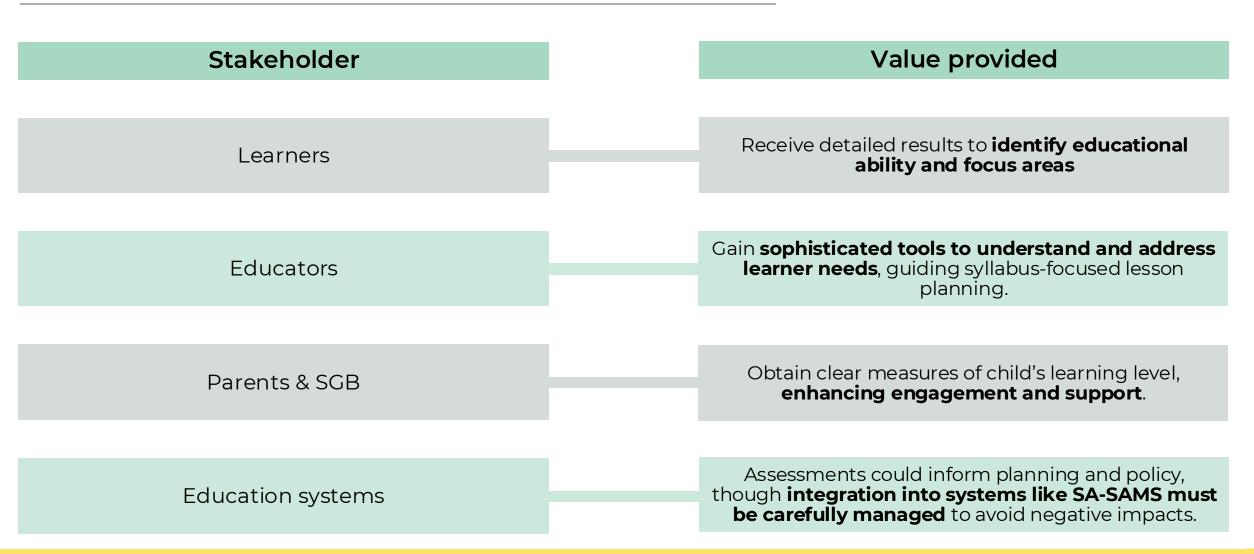
Implementing diagnostic tests and systemic evaluations is key to **building expertise and gaining political favour** needed for summative assessments

# Appendix slides

# The value of Diagnostic Assessments for different stakeholders

Assessment

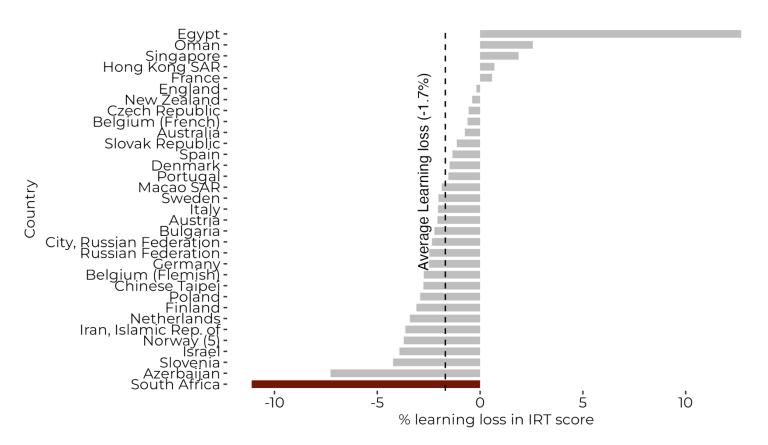
Value for all actors



# Pandemic learning losses have significantly erased improvements

Learning

# International comparison of PIRLS Learning Losses 2016 - 2021



Notes: South Africa's decline of 0.04SDs was nearly double the 0.23 mean but only the 10th largest. .Improvement is shown as a percentage of IRT scores, which are more intuitive than SDs. Refer to "How Standard is a Standard Deviation" for more details.

South Africa was assessed in 2022 in Grade 4

Source: Author from PIRLS Grade 4 2016 - 2021

## Discussion

- The pandemic has erased about ±10 years of progress in learning
- Compared to other countries, South Africa fared particularly poorly, losing the largest number of IRT points, while starting at the lowest base
- Although these results cannot be attributed to the pandemic alone, comparison between countries remains robust, with some caveats regarding delayed assessment
- There were signs of stagnation prior to Covid-19, notably in TIMSS Maths Grade 5, tested in 2019
- There have been no other national representative, psychometrically valid assessments pre and postpandemic in S

# Overview of growth-oriented education policy recommendations

Policy

# A rough Feasibility/Growth Potential policy matrix

Feasibility  Growth  Potential	1	2	3	4
1	Monitor anthropometric data in SA-SAMS	Quintile system rationalisation	School report card	ECD Expansion
2	Skills development levy rationalisation	Curriculum rationalisation towards literacy & maths & science	Increased fixed term contracts	New matric results indictor using % passing from Grade 10
3	Rationalise Post- provisioning norms	Aligning the OSD notches with their intended goal	ECD monitoring & quality Assurance with Thrive by Five	Systemic evaluations
4	Educator & Principal professional & promotional examinations	Focus Schools/National Schools of Excellence	Binding constrains (2016) literacy plan & universal Graded Readers	Diagnostic Assessments

# Why should we still aim for Summative Assessments?

Assessment

# The enduring value of comprehensive assessments

# **Equity & engagement**

Promoting equity by **highlighting disparities** within schools and at all
education levels

Catalyse parental & community engagement before matric NSC

Providing more objective benchmarks for progress for all students

Provides a **bargaining point**against which lower stakes
assessments can be the fallback
position

# **Policy infrastructure**

Ensures **consistent education standards** nationwide

Aligns educators with the syllabus

Provides informational infrastructure for **school report** cards

Provides the informational infrastructure for **selective schools** 

## Learning outcomes

**Motivates student** achievement at a younger age

Supports steaming and other improvements towards "teaching at the right level"

**Improved verification** of learning outcomes at foundational levels

Provides a **framework for accountability** at all levels and grades

(C) Capacity	Request a capacity audit of the education system to effectively teach reading to learners in early grades. Early literacy research in African languages declared a NRF priority area	Collaborative engagement with the DHET and education experts to develop PRE-SET and IN-SET training courses on 'how to teach reading'.	Foundation phase teachers and HODs track oral reading fluency and DBE workbook coverage of individual learners using SA-SAMs.	A ministerial performance agreement linked to reading goals housed outside the DBE.
(D) Accountability	Establish shared and independently benchmarked standards for reading in both English and mother tongue language.	Develop SA-SAMS module to capture oral reading fluency scores of Gr 1—4 learners and track curriculum as reflected in DBE workbook coverage.	PDEs and national DBE monitor system performance using the SA-SAMs reports on oral fluency and DBE workbook coverage.	Public awards for districts and schools for effective implementation of foundation phase reading strategies.
(E) Alignment	Reformulate a national early grade reading strategy using earlier strategies and findings from the IA.	Education experts to train current and newly appointed foundation phase reading specialists from province and district offices.	Public awareness campaign of early grade reading competencies in all provinces and in all official languages.	All important DBE planning documents to explicitly prioritise the early grade reading competency goal.
(F) Budget	Comprehensive budget analysis of the cost of implementing the national early grade reading strategy.	Specialist Foundation Phase reading experts deployed across districts and Foundation Phase class sizes reviewed	Ensure Foundation Phase classes are not overcrowded and no Foundation Phase class exceeds 45 learners	Create viable career paths for Foundation Phase teachers and specialists

# Small reforms sum to important improvements

Policy
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Quintile System reform

Curriculum rationalisation

New Matric Results Indicator

Rationalise Post provisioning norms

## **Purpose**

**Outdated** quintile calculations influence school funding

**Seven subjects** in leaving exams is unusually high and distracts from focusing on the essential subjects of language and math

A more accurate indicator could be the fraction of **passes from Grade 10 or Grade R,** although there are various "basket" suggestions

Extremely complex PPNs
 prevent straightforward auditing
 PPNs weight small schools and
 higher grades too heavily

## Supporting documents

Zoch, 2017

International norms

DBE, 2020

Deloitte, 2013

# Part 2.2: Post-Secondary Education & Training

This section draws heavily from the *National Plan for Post School Education* and *Training 2021-2030* (DHET, 2021) and will follow its structure

The reforms and plans that most aligned with growth will be highlighted

Some additional comments on policy for PSET

# Outcome 1.1: Clear and streamlined roles and responsibilities of all key stakeholders

PSET

# Data of employment successes must drive PSET

# Systems integration

Consolidate infrastructure, & establish CET colleges. Align funding processes, enrolment planning, qualification development, and data systems

Create a comprehensive data system replace existing data systems (HEMIS, TVETMIS, SETMIS, HEQCIS, etc.). Require all PSET institutions to use this standardised data system.

Address overlapping duties of quality councils (CHE, QCTO, SETA, Umalusi, SAQA, NSA) by potentially amending the NQF Act for enhanced efficiency.

### Resources & curriculum

All learning materials funded by public money will be available as open educational resources (OERs).

Distribute OERs via a licensing framework developed by the DHET

#### Pursue and share software licenses on a national level to support educational infrastructure

Re-evaluate and align the DBE's three-stream educational model with TVET qualifications to ensure coherence.

### Data & research

Require all PSET institutions to document registration and qualification outputs using unit record data, including ID numbers, to facilitate comprehensive tracer studies

Improve DHET's & all PSET institution's data collection & processing capabilities and establish a Central Applications Service (CAS).

Tracer studies through to employment outcomes, base education planning around evidence for learning that leads to employment. Run baseline data collection

PSET

# Inject clarity into the complex of PSET institutions

#### Outcome

Outcome 1.3: A simplified National Qualifications Framework (NQF)

Outcome 1.4: Increased articulation for students between and within the NQF subframeworks, and between and within institutions

Outcome 2.1: Increased enrolment in all PSET sectors

Outcome 2.4: A sustainable student financial aid system

# **Growth focused summary**

Simplified NQF: Streamline the National Qualifications Framework to **increase clarity and accessibility** as detailed in DHET (2021).

**Develop an integrated quality assurance and data system across** quality councils to improve learner legibility of NQF sub-frameworks and institutions.

Operationalise the Central Applications Service by 2025, and increase SDL funding for skills development.

Develop a learner funding model that ensures full coverage for the disadvantaged and continues cost-sharing for those who can afford it (This aligns well with the DTC)

# Outcome 2.7: Sufficient staff to support expansion & Outcome 3.4: 4IR

PSET

Strategic Initiatives for PSET Advancement and Responsiveness

## **Technological Integration**

Forge partnerships to understand and strategically prepare for the impacts of the Fourth Industrial Revolution, incorporating both local and international insights

**Research optimal lecturer-student ratios** to enhance student success across various academic fields

**Enhance data gathering and analysis** to support the development of a skilled workforce, aiding in the country's growth and global positioning (PC: maths, maths, maths!)

Develop a responsive PSET system by understanding and interacting with demand and supply dynamics through local to international community engagement & tracer study analysis

### **Collaborative Advancements**

**Collaborate with South African diaspora** to strengthen teaching and research, turning brain drain into brain gain.

Start with higher certificates and advanced diplomas in nursing and agriculture, with plans to offer Level 7 and 8 qualifications as capacities develop

**Implement socially responsive researc**h and collaborations to build capacity and inclusivity in education

**Gradually expand educational offerings** to include advanced certifications as institutional capacities develop, meeting the evolving needs of the educational landscape

# Outcomes 3.2: A diverse range of programmes responsive to the world of work

PSET

# Inject clarity into the complex of PSET institutions

#### **Outcome**

# Outcome 3.2: A diverse range of programmes responsive to the world of work

Outcome 3.3: A diverse range of mechanisms to improve research, innovation, commercialisation, and entrepreneurship in higher education

Outcome 2.1: Increased enrolment in all PSET sectors

Outcome 2.4: A sustainable student financial aid system

# **Growth focused summary**

Enhance PSET programmes to better meet industry needs through data-driven enrolment planning by the LMIU, and improve responsiveness to employment

Collaborate with the DSI and NRF to identify and promote centres of excellence in research and innovation to foster institutional differentiation and growth

Operationalise the Central Applications Service by 2025, and increase SDL funding for skills development.

Develop a learner funding model that ensures full coverage for the disadvantaged and continues cost-sharing for those who can afford it (PC: This aligns well with the DTC)

# Optimising SDL institutes for workplace readiness

#### Labour market responsiveness

#### **Data-Driven Enrolment Planning:**

Gather and report on workforce skills data to the LMIU to inform targeted enrolment planning and curriculum development

**Stakeholder Collaboration:** Intensify engagement with employers, labour, and government to ascertain future industry trends and skills needs

#### **Promotion of Practical Experience:**

Foster partnerships between educational institutions and industry to promote workplace-based learning (WPBL)

# System efficiency

# Regulatory and Quality Assurance Integration: integrate the quality assurance functions of SETA and NAMB into the Quality Council for Trades and Occupations (QCTO),

Progressively review and the allocation of the skills levy to support the QCTO's expanded functions,

Implement a three-year review cycle for each SETA's contributions towards the National Development Plan's objectives, using findings to adjust budgetary and strategic planning

## Resource management

# **Establish a shared services system for SETAs**, particularly in IT and human resources, to streamline operations and reduce operational costs, enhancing overall system efficiency.

Align SETA and National Skills Fund planning cycles with governmentwide frameworks like the MTSF and MTEF to ensure coordinated and strategic resource allocation

Maintain a focus on elevating the quality of teaching and learning, ensuring that as access to education expands, the quality is not compromised

# Infrastructure and quality while increasing throughput

#### Infrastructure

**Quality Assurance** 

Throughput

Outcome 2.6: Adequate infrastructure to support teaching, learning and research

Outcome 5.5: Improved quality assurance capability

Outcome 6.1: Increased education throughput

Infrastructure Improvement: Optimize time utilization through improved timetabling across all PSET institutions

**Development of Demand-Driven Qualifications**: Direct QCTO to develop qualifications reflecting the
Occupations in High Demand list, using data from LMIU

**Utilize cohort analysis** for detailed reporting on skills development, completion rates, and throughput across TVET and higher education sectors

Where needed, new CET campuses will be complemented by repurposing unused or underutilised government-owned buildings.

Specialised Staff and Stakeholder Engagement: Increase qualification development staff and enhance stakeholder involvement in curriculum design, especially in key sectors

**Data-Driven Decision Making**: Leverage HE data to monitor and

adjust educational strategies

# Quality research towards understanding PSET & employment

# Research quality

## **Tracer studies**

# **Funding**

Outcome 5.2: Improved research quality

Outcome 6.2: Improved exit outcomes related to the world of work

Outcome 7.2: Key strategies for funding and resourcing the PSET system

#### **National Licences Implementation**:

Prioritize national licensing for key journal databases and modernize, digitize, and share library operations Develop and operationalise a national tracer system to track student destinations post-graduation, using this data to enhance college operations Establish partnerships between public entities and the private sector to support students not covered by NSFAS, ensuring broader support across all educational levels

**Open Access Initiatives**: Collaborate with major educational and research organizations to foster open access publishing, including building a national open access roadmap

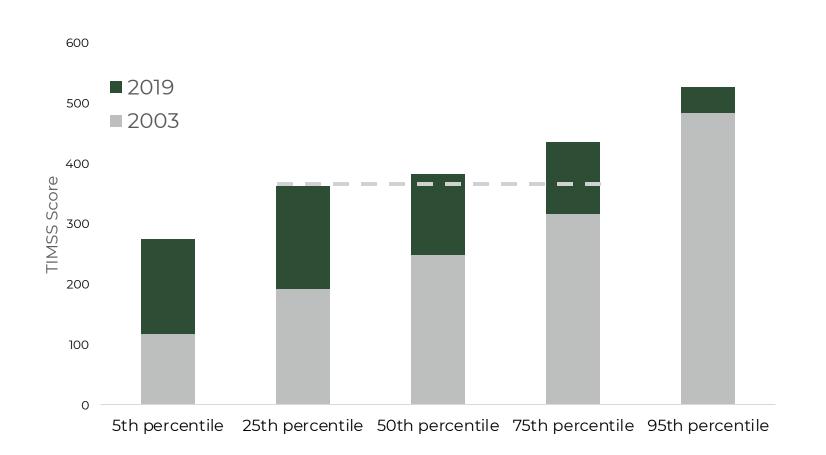
**Assist TVET colleges in collecting and reporting data** on student outcomes to enable comprehensive tracer studies

Ongoing Funding Scheme Evaluation: Continuously assess the effectiveness and sustainability of financial support mechanisms

# Learning inequality has reduced dramatically, but remains high

Inequality

## Declining Inequality in TIMSS Grade 9 Maths 2003-2019



Source: Author from TIMSS (2003 & 2019)

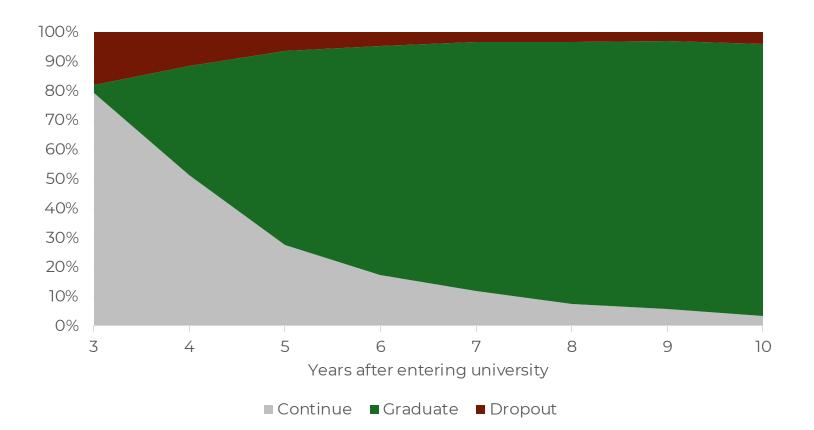
The sample sizes of the top and bottom 5% are not large enough for statistically significant conclusions

# **Implications**

- Between 2003 and 2019, test scores more than doubled for the bottom 5% of South Africans in TIMSS Grade 9 Maths
- In the same period, learning only improved by 9% for the top 5%
- The top 5% threshold in TIMSS
   Grade 9 maths in South Africa is
   527 points (2019). This is only 7%
   above the median for all TIMSS
   participating countries, which
   are assessed in grade 8
- These results must be carefully interpreted as 5% of the sample is not a statistically significant sample size. Nonetheless, the same pattern recurs at the 25 and 75 percentiles

PSET

% of FL 2013 cohort continuing, graduating, and dropping out



# **Implications**

- It is remarkable how high the graduation rate of Funza Lushaka recipients is
- Although this success must be lauded, without teacher quality assurances, and historically poor teacher content knowledge, the trade-off between quality and quantity must be carefully analysed

Source: Author from DHET (2023)