

Policy Implications of Research in Education 10

Nic Spaull · Jonathan D. Jansen *Editors*

South African Schooling: The Enigma of Inequality

A Study of the Present Situation and Future Possibilities

This volume brings together many of South Africa's leading scholars of education and covers the full range of South African schooling: from financing and policy reform to in-depth discussions of literacy, numeracy, teacher development and curriculum change. The book moves beyond a historical analysis and provides an inside view of the questions South African scholars are now grappling with: Are there different and preferential equilibria we have not yet thought of or explored, and if so what are they? In practical terms, how does one get to a more equitable distribution of teachers, resources and learning outcomes? While decidedly local, these questions resonate throughout the developing world.

South Africa today is the most unequal country in the world. The richest 10% of South Africans lay claim to 65% of national income and 90% of national wealth. This is the largest 90-10 gap in the world, and one that is reflected in the schooling system. Two decades after apartheid it is still the case that the life chances of most South African children are determined not by their ability or the result of hard-work and determination, but instead by the colour of their skin, the province of their birth, and the wealth of their parents. Looking back on almost three decades of democracy in South Africa, it is this stubbornness of inequality and its patterns of persistence that demands explanation, justification and analysis.

"This is a landmark book on basic education in South Africa, an essential volume for those interested in learning outcomes and their inequality in South Africa. The various chapters present conceptually and empirically sophisticated analyses of learning outcomes across divisions of race, class, and place. The book brings together the wealth of decades of research output from top quality researchers to explore what has improved, what has not, and why."

Prof Lant Pritchett, Harvard University

"There is much wisdom in this collection from many of the best education analysts in South Africa. No surprise that they conclude that without a large and sustained expansion in well-trained teachers, early childhood education, and adequate school resources, South Africa will continue to sacrifice its people's future to maintaining the privileges of the few."

Prof Martin Carnoy, Stanford University

"Altogether, one can derive from this very valuable volume, if not an exact blueprint for the future, then certainly at least a crucial and evidence-based itinerary for the next few steps."

Dr Luis Crouch, RTI

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Policy Implications of Research in Education

Volume 10

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Editors

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Possibilities

Editors

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List of Acronyms

ACE	Advanced Certificate in Education
ACER	Australian Council for Educational Research
ANA	Annual National Assessment
CAPS	Curriculum and Assessment Policy Statements
CHE	Council for Higher Education
CPD	Continuing Professional Development
CSI	Corporate Social Investment
DBE	Department of Basic Education
EMIS	Education Management Information Systems
ESF	Equitable Share Formula
FET	Further Education and Training
FFL	Foundations for Learning
GDP	Gross Domestic Product
GET	General Education Training
GHS	General Household Survey
GPLMS	Gauteng Primary Language and Mathematics Strategy
HSRC	Human Sciences Research Council
IEA	International Association for the Evaluation of Education
IQMS	Integrated Quality Management System
ITE	Initial Teacher Education
ITERP	Initial Teacher Education Research Project
LOLT	Language of Learning and Teaching
LTSM	Learning and Teaching Support Materials
NCS	National Curriculum Statement
NEEDU	National Education Evaluation and Development Unit
NIDS	National Income Dynamics Study
NQT	Newly Qualified Teachers
NSC	National Senior Certificate
NSES	National School Effectiveness Study
OBE	Outcome-Based Education
OTL	Opportunity to Learn

PCK	Pedagogical Content Knowledge
PILO	Program to Improve Learning Outcomes
PIRLS	Progress in International Reading Literacy Study
PISA	Program for International Student Assessment
RCT	Randomized Controlled Trial
REQV	Relative Education Qualification Value
RESEP	Research in Socio-Economic Policy
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SADTU	South African Democratic Teachers Union
SES	Socioeconomic Status
SGB	School Governing Body
SLM	School Leadership and Management
SMT	School Management Team
TD	Teacher Development
TIMSS	Trends in International Mathematics and Science Study

Chapter 1

Equity: A Price Too High to Pay?



Nic Spaull

1.1 Introduction

South Africa today is the most unequal country in the world. The richest 10% of South Africans lay claim to 65% of national income and 90% of national wealth; the largest 90–10 gap in the world (Alvaredo et al. 2018, p. 150; Orthofer 2016). Given the strong and deeply historical links between education and the labour-market these inequities are mirrored in the education system. Two decades after apartheid it is still the case that the life chances of the average South African child are determined not by their ability or the result of hard-work and determination, but instead by the colour of their skin, the province of their birth, and the wealth of their parents. These realities are so deterministic that before a child's seventh birthday one can predict with some precision whether they will inherit a life of chronic poverty and sustained unemployment or a dignified life and meaningful work. The sheer magnitude of these inequities is incredible. In 2018 the top 200 high schools in the country have more students achieving distinctions in Mathematics (80%+) than the remaining 6,600 combined.¹ Put differently 3% of South African high schools produce more Mathematics distinctions than the remaining 97% put together. Of

¹This is based on my own calculations on the Matric 2018 National Senior Certificate data (i.e. it does not include IEB candidates, but does include Independent schools that write the NSC). 'Top' here is defined as the largest number of mathematics distinctions (80%+). In all of these schools there are at least six mathematics distinctions per school. Note that 19 of the 200 schools are independent schools writing the NSC exam. This analysis of Matric 2018 data is an extended analysis of a previous RESEP project analyzing this dataset for Tshikululu Social Investments for the "Maths Challenge" project.

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those 200 schools, 175 charge significant fees. Although they are now deracialized, 41% of the learners in these schools were White. It is also worth noting that half of all White matrics (48%) were in one of these 200 schools. This is less surprising when one considers that in 2014/2015, White South Africans still make up two-thirds of the 'elite' in South Africa (the wealthiest 4% of society) (Schotte et al. 2018, p. 98).

In a few years' time when we look back on three decades of democracy in South Africa, it is this conundrum – the stubbornness of inequality and its patterns of persistence – that will stand out amongst the rest as the most demanding of explanation, justification and analysis. This is because inequality needs to be justified; you need to tell a story about why this level of inequality is acceptable or unacceptable. As South Africans what is the story that we tell ourselves about inequality and how far we have come since 1994? Have we accepted our current trajectory as the only path out of stubbornly high and problematically patterned inequality? Are there different and preferential equilibria we have not yet thought of or explored, and if so what are they? In practical terms, how does one get to a more equitable distribution of teachers, resources or learning outcomes? And what are the political, social and financial price-tags attached to doing so?

While decidedly local, the questions posed above and in the subsequent chapters of this book also have global relevance. Like few other countries in the world, South Africa presents an excellent case study of inequality and its discontents. As Fiske and Ladd (2004, p.x) comment in their seminal book 'Elusive Equity':

South Africa's experience is compelling because of the magnitude and starkness of the initial disparities and of the changes required. Few, if any, new democratic governments have had to work with an education system as egregiously- and intentionally inequitable as the one that the apartheid regime bequeathed to the new black-run government in 1994. Moreover, few governments have ever assumed power with as strong a mandate to work for racial justice. Thus the South African experience offers an opportunity to examine in bold relief the possibilities and limitations of achieving a racially equitable education system in a context where such equity is a prime objective.

Inequality touches every aspect of South African schooling and policy-making, from how the curriculum is conceptualized and implemented to where teachers are trained and employed. Reviewing the South African landscape there are many seemingly progressive policies on topics such as school governance, curriculum and school finance. As the chapters in this volume will show, few of these have realized their full potential, and in some instances, have hurt the very students they intended to help (Curriculum 2005, for example). The ways that these policies have been formulated, implemented and subverted are instructive to a broader international audience, particularly Low- and Middle-Income Countries and those in the Middle East and Latin America. The visible extremes found in South Africa help to illustrate the ways that inequality manifests itself in a schooling system. In a sense, the country is a tragic petri dish illustrating how politics and policy interact with unequal starting conditions to perpetuate a system of poverty and privilege. Ultimately, we see a process unfolding where an unjustifiable and illegitimate racial education system (apartheid) morphs and evolves to one that is more justifiable and somewhat

non-racial, all the while accommodating a small privileged class of South Africans who are not bound to the shared fate of their fellow citizens.

Based on their reading of the South African evidence, different authors paint a more, or less, pessimistic picture of South African education. Some authors focus on the considerable progress that has been made in both the level and distribution of educational outcomes since the transition, and particularly in recent periods (Van der Berg and Gustafsson 2019). Others document tangible interventions aimed at decreasing inequality by improving early grade reading outcomes in the poorest schools, principally through lesson plans, teacher-coaches and materials (Taylor S 2019). While generally supportive of these types of interventions a number of other authors caution that these gains are the low hanging fruits of an extremely underperforming system. Unless teachers have higher levels of content knowledge (Taylor N 2019), and meaningful learning opportunities to improve their pedagogical practices (Shalem and De Clercq 2019) any trajectory of improvement will soon reach a low ceiling. Moving beyond teachers' competencies, the book also foregrounds deficiencies in funding (Motala and Carel 2019), and the primacy of politics (Jansen 2019).

The aim of this introductory chapter is to provide an overview of the key dimensions of inequality in education and in South Africa more generally, showing that outcomes are still split along the traditional cleavages of racial and spatial apartheid, now also complemented by the divides of wealth and class. The argument presented here foregrounds the continuity of the pre- and post-apartheid periods and concludes that in the move from apartheid to democracy the primary feature of the story is a pivot from an exclusive focus on race to a two-pronged reality of race and class. This is true not only of the schooling system, but also of South African society more generally. Where rationed access to good schools was determined by race under apartheid, it is now determined by class and the ability to pay school fees, in addition to race. Rather than radically reform the former White-only school system – and incur the risk of breaking the only functional schools that the country had – the new government chose to allow them to continue largely unchanged with the noticeable exception that they were no longer allowed to discriminate on race and they were now allowed to charge fees. While there are thousands of students who succeed against the odds despite being in the dysfunctional part of the schooling system, these are the rare exception to the rule. The only reason why they emerge in sizable numbers nationally is because of the vast numbers of schools from which they hail. In absolute numbers no-fee schools produce a considerable number of high-achieving matrics, yet this is not surprising when they make up more than 75% of schools. In relative terms the probability of 'succeeding against the odds' when attending one of these schools is dismal (see Table 1.1 in the Appendix to this chapter).

After documenting some of the structural features of the South African education system, the chapter reviews some of the ways that poor children are excluded from fee-charging functional schools, provides a stylistic overview of how learning outcomes have changed in the post-apartheid period, before finally discussing the centrality of school-fees in the South African system. While there are many faces of

educational inequality in South Africa, notably the racial composition of a school, its location, and legal status (public or private), the single most deterministic feature which subsumes all of these is whether the school charges fees or not, and if it does, how large those fees are.

It is not the aim of this chapter, or indeed of this book to dwell on definitions of equity, inequality, opportunity, adequacy and the like. While obviously important, these have been dealt with authoritatively elsewhere (Rawls 1971; Roemer 1998; Nussbaum 2011; Atkinson 2015; Sen 1973), and notably with specific reference to the South African context (Fiske and Ladd 2004). There is now widespread recognition that South Africa needs to move beyond mere ‘sameness of treatment’ (equality) towards a pro-poor, preferential treatment of those who were systematically disadvantaged under apartheid; the pursuit is equity not equality. What is missing is an authoritative, empirical, up-to-date account of inequality in South African schooling. That is the aim of our book and this framing chapter.

1.2 Setting the Scene: South Africa, a Country Divided

There is a strong case to be made that the most powerful meta-narrative available in South Africa at the moment is of a two-tiered or dualistic society. While all countries face educational inequalities, particularly that of low and middle-income countries, the levels and patterns of inequality in South Africa are extreme and still map onto the axes of apartheid oppression with uncanny regularity. The policy choices of the post-apartheid government, aided and abetted by the inertia of apartheid and the compromises of the negotiated settlement have resulted in two South Africa’s co-existing within the same borders, poverty and privilege living side by side. The smaller group of about 20–25% are urban, multiracial, educated and employed, having access to quality schools and stable employment. By contrast, the second tier – who make up more than 75% of society – are subject to sustained unemployment and/or precarious work with few long-term benefits (Schotte et al. 2018).² This group is made up of largely Black and Coloured South Africans who own no assets and whose children are confined to low-quality no-fee schools (Van der Berg et al. 2011; Spaull 2015b).

²It is worth briefly situating the two school systems within a broader South African context. Recent scholarship points to five ‘social strata’ in South Africa with drastically different expenditure per-person-per-month (pppm) and probabilities of entering and leaving poverty (Schotte et al. 2018). On the one hand, one has the *Chronic Poor* (49% of society, R400 ppm), the *Transient Poor* (13% of society, R600 ppm), and the *Vulnerable* (14% of society, R2,000 ppm) who constitute the second tier of society (together about 70–75%). On the other hand one has the Middle Class (20% of society, R4,000 ppm), and the Elite (4% of society and R19,300 ppm) making up the upper tier of society. White South Africans still make up two-thirds (65%) of the Elite (Schotte et al. 2018, p.98).

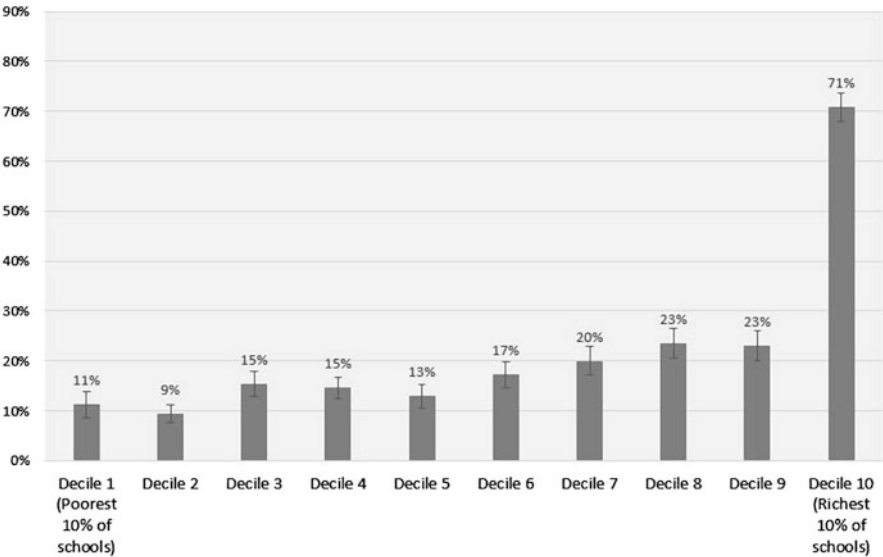


Fig. 1.1 The percentage of Grade 4 learners who can read at a basic level in any language (the PIRLS Low International Benchmark) by deciles of average school wealth. (Data: PIRLS Literacy 2016 with 95% confidence intervals, own calculations with schools weighted by learners)

Looking specifically at education, there is now a well-established literature pointing to two distinct schooling systems (Spaull 2013; Shepherd 2011; Taylor and Yu 2009; Van der Berg 2007; Fleisch 2008). This literature highlights the two-tiered nature of both the distribution of inputs and accountability-structures, but also of learning outcomes, as is evidenced by the stark contrasts in performance between the wealthiest schools and the rest (Figure 1 from Spaull and Pretorius 2019 in the current volume) (Fig. 1.1).

In trying to explain the existence of these two education systems, all researchers foreground the clear continuity between the pre- and post-apartheid periods, whether sociologists (Hoadley 2018; Badat and Sayed 2014), historians (Chisholm 2004); or economists (Fiske and Ladd 2004; Van der Berg 2007; Spaull 2013). While they use different data and methodological tools they come to the same conclusion. That is, that there exist two school systems in one, under apartheid this was by design, post-apartheid by compromise.

With the benefit of hindsight, one can debate whether or not the ANC government made the right choices during and after the democratic transition. Those who defend the historical policies and priorities of the country point to the myriad of social, political and financial constraints that seemed insurmountable at the time. They argue that the compromises made were not ideal but necessary, that they avoided a civil war, and that they have created a multi-racial middle-class. Opponents of this view argue that the ANC acquiesced too quickly on core socio-economic issues of land-redistribution, restitution and the payment of reparations, and furthermore that

the status quo is simply the logical outcome of neoliberal policies. Yet both sides would agree that the current distribution of wealth and educational opportunity was never envisioned as one of the desirable scenarios three decades into democracy.

Whether intended or not, our particular journey into democracy has resulted in more income inequality, not less – driven primarily by increases in within-race inequality among Black South Africans (Leibbrandt et al. 2010). It has not cured or curbed extreme inequality. Instead, the ordering principles of the country have shifted from a racial hegemony to a market-oriented democracy (Seekings and Natrass 2008). The de facto result of this was that the unequal two-tiered system of apartheid remained intact with the discriminating principle mutating from an exclusive focus on race to one that is now inclusive of class.

This is aptly encapsulated by Seekings and Natrass (2008, p.6) who conclude that,

The reason why extreme inequality has persisted after 1994 is, above all, that the distributional regime of the late apartheid period has been reformed (primarily through deracialization) rather than transformed or rejected in favour of a more egalitarian one.

The post-apartheid education system is an awkward fusion of apartheid systems serving post-apartheid societies. What the apartheid government used to perpetuate privilege and to act as a lever for rapid poor-white social mobility, post-apartheid society used as a lever for black middle-class mobility. Today Black and Coloured learners make up 60% of those attending former White-only fee-charging schools³). Thus, a small, separate and functional school system, created to privilege one section of the population and exclude others remained intact “but the composition of the privileged group and the basis of privilege has changed over time” (Seekings and Natrass 2008, p.6; see also Southall 2016).

While the ‘two-tiered education system’ serves as helpful narrative short-hand, the empirical realities are slightly more nuanced than this and are important to understand. In large part the size of the two different groups is a function of how exclusive the metric of achievement is. It is illustrative to compare three levels of achievement in the school leaving exam known as matric: (1) *elite-performance* (80%+ in mathematics), (2) *high-performance* (60%+ in mathematics), and (3) *moderate-performance* (bachelor’s pass⁴). As was mentioned in the opening paragraph to this chapter, at elite levels of performance the contrast is starkest; the top 3% of high schools achieve more mathematics distinctions than the other 97% combined. But looking at the high-performance category, Van der Berg and Gustafsson (2019) show that about half (45%) of all high-level mathematics passes

³This is based on the 156 former White-only schools (House of Assembly, HOA) included in the Verification ANA 2013 sample (Grades 3, 6 and 9).

⁴A ‘bachelor pass’ is the term used to describe the level of matric pass that allows a student to apply to university.

(60%+) in public schools actually come from no-fee (Q1-3⁵) or very low-fee (Q4) schools, with the other half (55%) coming from higher-fee schools (Q5). At moderate-performance (bachelor passes), no-fee and low-fee (Q1-4) schools produce twice as many bachelor passes as higher-fee (Q5) schools do. Part of the reason for this is that, in absolute numbers, 85% of high-school students are in Q1-4 schools and only 15% are in Q5 schools.

The reason why the two-tiered conceptual frame is still helpful is that for the average child it makes the world of difference if one is in the 20–25% or so of functional schools that charge fees or the 75% that do not. Yes, large parts of the emerging black middle-class may be from the large numbers of outlier students in the no-fee part of the system, but the probability of entering the middle class if one attends a no-fee school compared to a high-fee school are drastically different.

1.3 Retaining White Schools, Teachers and Students in the Public System

At the time of the transition (1990–1994) the government-in-waiting realized it would need to radically reprioritize education spending in order to address prior inequities. This necessarily meant that it would not be able to continue to fund former White-only schools at the same level as they had been under apartheid. This was problematic because there was a significant fear that declines in the quality of these privileged schools would lead to ‘White flight’ where White students and White teachers would move to the private sector en-masse, resulting in a low-quality Black public system and a higher-quality White private system. This was made explicit by Christopher Colclough, an influential finance specialist during the transition (see Jansen 2002, p.204) as well as Luis Crouch who referred to the same concept as the fear of the ‘Latin-Americanization’ of schools. The “notion that not having the middle classes vocally and publicly support public education as a matter of personal rather than abstract interest (because their own children were in private schools) would be deleterious to both accountability and budgetary support. This view was fairly commonly held in Latin America at the time” (Crouch 2018).

In order to allow these 10% or so of schools to maintain their resource levels *and* remain public schools, the South African Schools Act of 1996 made provision for public schools to charge fees as determined by the School Governing Body (Chapter 3, Section 29). This provision was ‘balanced’ by another somewhat contradictory proviso that “No learner may be refused admission to a public school on the grounds that his or her parent is unable to pay or has not paid the school fees determined by the governing body” (Chapter 2, Section 5.3.a). This second provision was, and still is, circumnavigated by almost all fee-charging schools in

⁵ ‘Q’ here stands for ‘Quintile’. All public schools in South Africa are classified from Quintile 1–5 with Quintile 1 being the poorest category and Quintile 5 being the wealthiest.

the country, as evidenced by the fact that only about 0,3% of students in the country receive fee exemptions.⁶

1.4 Strategic Ways of Excluding Children Who Cannot Pay Fees

This circumnavigation is made possible by some informal mechanisms of exclusion that are still not well understood (social networks, biased admissions interviews and policies, waiting lists etc.), but also by ‘feeder zones’ where schools have significant latitude to define the geographical areas from which they will accept learners – typically a few kilometres from their school (Department of Education 1998, p.5). Given the legacy of the Group Areas Act and the inertia of spatial apartheid, the consequences of feeder-zones are clear – former ‘White’ schools in ‘White’ neighbourhoods select learners from their immediate surrounds because they are in their ‘natural’ feeder zones. Incidentally, most of these learners *can* pay school fees. Even when these schools have desegregated, this is typically because Black middle-class parents (who can also afford fees) have moved into these neighbourhoods rather than due to more egalitarian or geographically-sensitive student selection policies.

Another form of exclusion – that is now better understood – is the use of a school’s language of instruction as a tacit form of exclusion, particularly the use of Afrikaans. Most Black South African children do not speak Afrikaans and are therefore ineligible for admission at Afrikaans-medium schools. Given that School Governing Body (SGBs) can determine the language of instruction of a school, schools that are Afrikaans-medium and predominantly White can ‘legally’ exclude Black children on the grounds that they do not speak Afrikaans. Since the 2009 Ermelo judgement of the Constitutional Court,⁷ this form of exclusion has been the subject of considerable scrutiny and litigation and seems to be on the decline.

In sum, under apartheid White schools received disproportionately more funding through inequitable race-based tax-funded subsidies. Post-apartheid the same

⁶As Gustafsson (2018a) notes, “An unpublished report from the 2009 Funding and Management Survey (FAMS) study provides figures indicating that around 20% of fees charged in the public system are not collected, with around half of the gap being due to formal fee exemptions, and the other half simple non-payment of fees due. According to the General Household Survey of 2016, only 0.3% of learners ‘get a fee exemption’, meaning they are in a fee-charging school but due to household circumstances are exempt from payment.”

⁷Here the Constitutional Court judgement (Head of Department vs. Hoorskool Ermelo 2010, p.52) ruled that while children do have a right to receive a basic education in the language of their choice, this is only available when it is ‘reasonably practicable’ which depends on a variety of ‘context-sensitive’ factors including the “availability of and accessibility to public schools, their enrolment levels, the medium of instruction of the school... [and] the language choices the learners and their parents make”. See Stein (2017) for a full discussion.

schools continued to receive disproportionately more funding but now this is channeled through class-based private contributions (fees) (see Motala and Carel in the present volume). The principals and SGBs managing these schools have proved adept at ensuring that their school communities are composed almost entirely of parents who can, and do, pay fees thus avoiding the legal provision to accept those who cannot pay fees. These principals and SGB members would argue that they do so to protect the quality of education in their schools – a quality they would not be able to maintain without these additional contributions.

Importantly, it is not only financial resources that remain concentrated in former White schools. Given that teachers and principals can choose which schools they want to work in, well-resourced schools can attract the highest quality principals (Wills 2019) and teachers (Motala and Carel 2019). Unsurprisingly, teachers and principals compete to work in these schools. This is for professional reasons; many teachers prefer to teach in schools with a rich educative environment that is conducive to learning – as well as materialistic reasons; they are in wealthier areas, have smaller classes, more learner and teacher support materials, better school administration and sometimes significant in-kind contributions such as subsidized housing and fee exemptions for the children of staff.

1.5 Problems of Capacity or Problems of Accountability?

Changing who has access to the functional (fee-charging) part of the schooling system, while important, will not fundamentally change overall inequality in the schooling system or society, purely because it is so small – at most 30% of learners in South Africa pay fees (DBE 2018, p.33). As some authors in this volume have argued (S. Taylor 2019), improving the learning outcomes of those in the large number of no-fee schools is the surest way of decreasing inequality overall and improving the life-chances of most children. How one does that is less clear. While there are a variety of different approaches, broadly speaking there are two schools of thought: those that focus on interventions to increase *accountability* (assessments, incentives, monitoring, etc.) and those that focus on improving *capacity* (training, resources, support, etc.).

The most recent and authoritative account of the accountability problems faced in the sector comes in the form of a 2016 report by the Ministerial Task Team headed by Professor John Volmink formed to investigate fraud and corruption in the sector, and specifically the sale of teacher and principal posts for cash and livestock (DBE 2016a). They found that the dominant teacher union – the South African Democratic Teachers Union (SADTU) was in “de facto control” (p.119) of the education departments in six of the nine provinces in the country. The investigators report that “all the Deputy Directors-General in the Department of Basic Education are SADTU members and attend meetings of that Union” and conclude that, “it is not improbable to say that schooling throughout South Africa is run by SADTU” (DBE 2016a, p. 93). One of the reasons why undue union influence is particularly

acute in South Africa is that the national government, the African National Congress (ANC), is in a formal ruling alliance with the Confederation of South African Trade Unions (COSATU), of which SADTU is the largest member.

Despite wide-spread agreement that the majority teacher union (SADTU) plays a major role in influencing which policies are enacted and how they are implemented (or not), the specific mechanisms through which this is accomplished are not well-researched or well-understood. Martin Gustafsson's chapter in the current volume is a rare exception, documenting where and how key policies were supported or resisted by the teachers' unions over the 2007–2017 period (see also Patillo 2012).

The second main school of thought foregrounds problems of capacity – both state capacity and teacher capacity – as a key reason why there have not been more substantive improvements in learning outcomes in the poorest schools (Van der Berg et al. 2016). The most striking example of this is that 79% of Grade 6 mathematics teachers in the country cannot do Grade 6 or 7 level mathematics (Venkat and Spaull 2015). The chapter by N Taylor (2019) documents the full extent of this problem, while that of Shalem and De Clercq's (2019) illustrates why this has remained an unsolved problem.

Notwithstanding the importance of either of these constraints separately, it is likely that it is the joint lack of *both* capacity *and* accountability that is the major impediment to large improvements in learning outcomes in the majority of schools (Spaull 2015a), rather than due to just one factor. Without disagreeing with this, a number of scholars would still argue that one must begin focusing on improving capacity since capacity must precede accountability (Elmore 2004). One can only hold people accountable for things that they can actually do. We will return to this at the end of the chapter when discussing the way forward. Despite the lack of both accountability and capacity in the South African education system over the last two decades, there have in fact been some important gains in learning outcomes across the country. Since these new results have only been available for 2 or 3 years at most (since 2016) they are not yet well known or well understood and thus deserve some attention here.

1.6 Trends Post-apartheid

It is frequently the case that when scholars discuss the *distributions* of learning outcomes in a country that they lose sight of the levels of learning outcomes and how these are changing over time. While Van der Berg and Gustafsson (2019) in the present volume address this issue authoritatively and show that learning outcomes *have* improved in the post-apartheid period, irrespective of the data used or the grade assessed, for the general reader it is perhaps helpful to provide a stylistic overview of these trends in learning outcomes.

Like many middle-income countries South Africa participates in a number of international assessments every 3 or 4 years. By testing a nationally-representative sample of students from various grades and assessing a variety of subjects, these

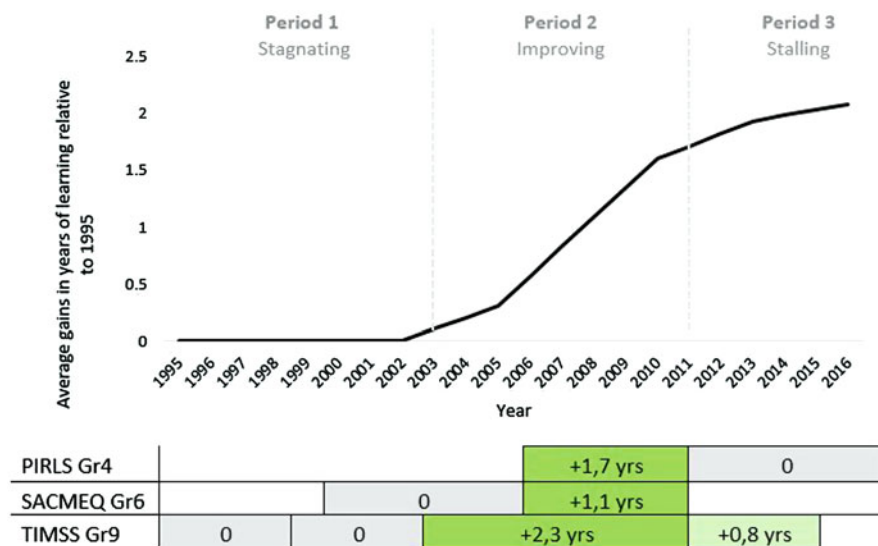
tests allow us to benchmark ourselves relative to other countries internationally and – importantly – to determine if learning outcomes are improving, stagnating or deteriorating over time. The three international assessments South Africa participates in are the Trends in International Mathematics and Science Study (TIMSS, Grade 9 Maths and Science conducted in 1995, 1999, 2003, 2011 and 2015), the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ, Grade 6 reading and mathematics conducted in 2000, 2007 and 2013), and the Progress in International Reading Literacy Study (PIRLS, Grade 4; conducted in 2006, 2011 and 2016). These are the only assessments that provide psychometrically valid⁸ comparisons of learning outcomes over time.

Figure 1.2 below provides a stylistic overview of the trends in learning outcomes in the post-apartheid period. To do so it uses results from all waves of all three international assessments (TIMSS, SACMEQ and PIRLS) and averages the annual learning gains⁹ across each cycle. What is immediately clear is that there *have* been some gains in learning outcomes in the post-apartheid period, notably between about 2003 and 2011. There is now a growing body of reliable and consistent findings documenting these gains (see Van der Berg and Gustafsson 2019 for a full discussion). As more corroborating evidence emerges, the position that learning outcomes have not improved in South Africa – or that “education is worse than it was under apartheid” (Ramphela 2012) – is increasingly becoming a fringe view that is not supported by the data or serious scholars. Broadly speaking one can see three periods which could loosely be referred to as (1) a ‘*stagnating*’ phase (1995–2003) where learning outcomes did not improve at all (neither between TIMSS 1995, 1999 and 2003, nor between SACMEQ 2000 and 2007). (2) The ‘*improving*’ phase (2003–2011) where learning outcomes improved relatively quickly, supported by data from TIMSS 2003–2011, SACMEQ 2007–2013 and PIRLS 2006–2011. (3) The ‘*stalling*’ phase (2011–2016) where gains have flattened out as evidenced by the lower gains in TIMSS 2011–2015 and particularly the lack of any improvement between PIRLS 2011–2016.

While the international assessments are the most reliable indicators of progress in education, there are also other pieces of supporting evidence, including the fourfold increase in black university graduates between 1994 (11,339 black graduates) and 2014 (48,686 black graduates) (Van Broekhuizen 2016, p. 12), and the large increase

⁸For a discussion of comparability issues related to SACMEQ 2007 and 2013 results, and for a detailed discussion of the re-scaling procedures undertaken by PIRLS to make prePIRLS and PIRLS Literacy scores comparable see Spaul and Pretorius (2019) in the current volume.

⁹To be specific it calculates the difference in test scores between the start and end of the period and expresses them as a percentage of the standard deviation of the earlier period. This is converted into ‘years of learning’ using 0,3 standard deviations being equivalent to 1 year of school (see Spaul and Kotze 2015, p. 20). The gray sections in the table below the graph indicate that there was no improvement in learning outcomes over that period. For SACMEQ 2007–2013 we use the classical test scores and standard deviation reported in Van der Berg and Gustafsson (2019) in the present volume rather than the Item Response Theory scores due to the psychometric concerns with the IRT scores discussed in Spaul and Pretorius (2019).



Note: This uses comparable scores for TIMSS 1995-1999, 1999-2003, 2003-2011, 2011-2015; SACMEQ 2000-2007; PIRLS 2006-2011, 2011-2016.

Fig. 1.2 Gains in learning outcomes in South Africa (1995–2016) expressed as average gains in years of learning relative to 1995

in the number of black matriculants receiving mathematics marks which make them eligible for engineering at university, increasing from 18,601 to 25,054 between 2002 and 2016 (Van der Berg and Gustafsson 2019).

1.7 The Correlates of Educational Inequality

Coming back to the distribution of these learning outcomes, Fig. 1.3 below provides an overview of inequalities in learning outcomes by race, fee-status, province and school quintile. Table 1.1 in the appendix provides the full information for this figure, together with corroborating evidence from five different data sources and six different grades illustrating that the trends are consistent and impervious to the subject under analysis, the dataset used, or the grade of assessment (Fig. 1.3).

Table 1.1 in the Appendix illustrates that while only 48% of Black Grade 3 learners pass mathematics, 85% of White learners do likewise. In Independent schools, 84% of Grade 5 learners can do basic mathematics in accordance with international norms (TIMSS), compared to 67% in fee-charging public schools and only 25% in no-fee public schools (Isdale et al. 2017). Similarly, large discrepancies can be seen between the two high performing provinces of Gauteng and the Western Cape and the weakest performing provinces of Limpopo and the Eastern Cape.

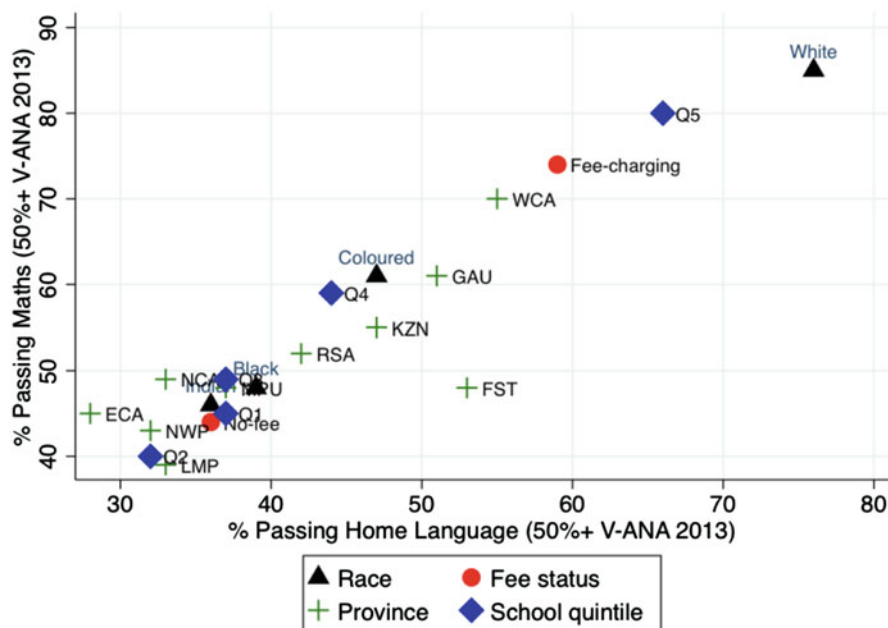


Fig. 1.3 Overlapping inequalities – the percentage of Grade 3 learners in Verification Annual National Assessment (ANA) 2013 passing mathematics and home language (50%+) (own calculations¹²). Note ‘Race’ is the race of the child not the former department of the school; Q1 is the poorest and Q5 the wealthiest of the school quintiles

The percentage of matrics receiving bachelor passes in the Western Cape and Gauteng is twice as high (40% and 39% respectively) as that of the Eastern Cape (22%) or Limpopo (19%). While 22% of White matrics achieve 60% or higher in Mathematics, only 3% of Black and Coloured matrics achieve at the same level. Similar patterns exist for learning outcomes in science and home-language across the grades (Table 1.1).

It is important to note that these five dimensions of inequality (race, fees, school-status, province and quintile) are simply different refractions of the same underlying inequalities. On average in South Africa, White students perform better than Black students, as do those attending Quintile 5, fee-charging or Independent schools, together with those living in either Gauteng or the Western Cape relative to their counter-part groups. In each case this is essentially repetition, the same tune in a different key. The common denominator across all dimensions is the fee-status of the school and the concomitant privileges and resources that come with

¹²This analysis of DBE’s V-ANA 2013 data was part of a larger project undertaken by RESEP in 2014/2015 as part of the Programme to Support Pro-Poor Policy Development (PSPPD) commissioned by the South African Presidency.

that. A full 85% of White students attend fee-charging schools. Half of all fee-charging schools (47%) are found in the two wealthiest provinces; the Western Cape and Gauteng (V-ANA 2013, own calculations). Practically all Independent schools (99%) charge fees. In juxtaposition, 98% of students in no-fee schools are either Black or Coloured. The side of inequality that one happens to see depends on how one looks at the data. Yet they all come from the same underlying data-generating process; a dualistic interwoven system split on race, class and location. The school system bequeathed from apartheid has undergone a kind of transformation, and there are some fruits of that transformation, yet there are arguably more continuities than ruptures.

1.8 Where to from Here?

In light of the above, it should not come as a surprise that there is still room for the pro-poor allocation of resources as a route towards greater equity. This is not an especially popular argument in the South African literature. There is now a large body of work – primarily in economics – documenting how the allocation of additional resources to the poorest 60% of schools has not had the desired outcomes. As my colleagues Van der Berg and Moses (2012, p. 134) argue: “In education there is still no clear link between resource shifts to the poor and social outcomes, despite substantial improvements in access to and investment in public education in recent times.” This view is echoed in earlier influential contributions by Crouch and Mabogoane (1998) who explain that “mere redistribution” of inputs without concomitant managerial expertise will not lead to meaningful redress. Similarly, Van der Berg (2006) states that “education spending is now quite well targeted to the poor, even in an international context” but that “equity of educational outcomes remains elusive” which “emphasizes the importance of improving efficiency in schools, particularly in poor schools.” One interpretation of this body of research seems to suggest that the answer to educational equity lies somewhere other than additional resources, perhaps the efficiency and management of existing resources or issues to do with the political economy of education. However, it would seem that the extant literature has made almost no distinction between additional resources in the aggregate (‘business-as-usual’ resources) and additional resources for specific purposes (targeted resources).

1.8.1 *Increased Targeted Resources*

While it may well be true that decreasing class sizes from 45 to 41 by deploying regular teachers may not have a significant effect on learning outcomes, it remains to be seen what the effect would be of using the same funds but legally requiring

that they be spent on new Funza Lushaka¹³ graduates specializing in mathematics or literacy, or to eliminate extreme class sizes in the Foundation Phase – both examples of targeted resources. There is now also quite compelling evidence that new targeted interventions *can* raise learning outcomes in some high-poverty contexts in South Africa. The chapter by Stephen Taylor in the current volume reports on a local intervention (the Early Grade Reading Study) which has been rigorously evaluated and shown to have some impact for learners in the poorest urban schools (but not rural schools unfortunately). However, for targeted interventions such as these to be sustainable they require considerable ongoing investments. Implementing a coaching intervention where teachers receive monthly in-classroom support for 50% of South African primary schools might cost somewhere in the order of R1,3-billion¹⁴ per year. The challenge here will be sourcing, recruiting and training a small army of highly competent teacher-coaches which do not currently exist. Such an intervention would require either additional resources from Treasury or a reprioritization of existing resources.

Benefit incidence analyses of public basic education spending in 1995 and 2000 (Van der Berg 2006) as well as in 2005 (Gustafsson and Patel 2006) both point to slight pro-rich allocations of personnel funds spent by government due to “differences in qualifications and experience, and hence salaries, between teachers in more and in less affluent schools” (Van der Berg 2006, p. 49). Essentially, more qualified (and therefore better paid) teachers are more likely to teach in wealthier schools. This is most acute for public expenditure on non-educators which is pro-rich. More recent analysis of the 2016 government payroll data (Persal) shows that personnel spending was only pro-poor in Limpopo and Mpumalanga, with the remaining provinces displaying a pro-rich allocation (Martin Gustafsson, 2018: personal communication). This is important because personnel spending makes up about 80% of overall expenditure on education in the country. Once one takes into account the pro-poor non-personnel public expenditure, and includes items such as expenditure on the school nutrition program, overall public expenditure on basic education is slightly pro-poor. As one might expect, including private contributions leads to a drastically pro-rich allocation of societal resources as Motala and Carel illustrate in the present volume.

When over 80% of the public education personnel budget in South Africa is pro-rich in seven provinces it is difficult to argue that there is no room for further pro-poor policies in the system. If funding formulas on personnel spending included even a modest ring-fenced pro-poor component, this could be used for a limited number of pre-approved evidence-based interventions. Although there have been

¹³The Funza Lushaka program is a bursary scheme offering funding to students studying to become teachers on condition that they study selected fields and work in selected government schools upon graduation.

¹⁴The cost for implementing the Early Grade Reading Study (EGRS) coaching intervention is approximately R3-million per year per grade for 50 schools (Stephen Taylor, 2018; personal communication), suggesting that for 7500 primary schools (50% of primary schools in South Africa) for three grades (Grade 1–3) this would be about R1,3-billion per year.

moves in this direction in the past – notably in a 2002 revision to the post-provisioning norms which allowed for up to 5% of school posts to be allocated in a pro-poor way (Government Notice 452 of 2002) – the uptake of this provision is patchy at best, monitoring is weak and reporting on it non-existent. The political will attached to these types of initiatives is clearly lacking.

If South Africa moved towards a pro-poor allocation of personnel resources (and not only non-personnel resources as is the case now), this would inevitably require a reduction in state funding to current public fee-charging schools. The fear is that this would lead to a growth in the private schooling system as middle-class learners and teachers leave fee-charging public schools due to a reduction in funding to these schools (cf. the Latin-Americanization discussion above). This is unlikely to be the case given how heavily subsidized fee-charging public schools currently are (primarily through government expenditures on personnel). Furthermore, there are tangible policies and laws that the government could implement relatively easily to ensure that private schools also contribute towards a more equitable schooling system. For example, one could legislate that all fee-charging private schools are required to accept (without state compensation) at least 20% of learners who are poor and cannot afford fees. A similar policy has been implemented in India, known as the Right to Education Act (see Skelton 2017, p. 41, for a full review also documenting some of the challenges with these types of policies). Given that there are many more fee-charging public schools than fee-charging private schools, one may wish to include some public fee-charging schools, for example those that charge more than R20,000 school fees per year. Given the small number of children in schools charging more than R20,000 per year (about 233,000 learners¹⁵), some may argue that this is just a drop in the ocean. However, if one considers that 46,800 predominantly Black children would access these high-functioning schools (as the 20% fee-exempt), this is not a trivial number. To put this in perspective, if one thinks that the average bachelor pass rate is about 80% in high-schools charging more than R20,000 fees per year,¹⁶ this could potentially translate into a maximum of 40,000 students eligible for university coming from the poorest households over the next decade (i.e. as these learners reach and complete matric).

Seen in combination, these two policies (pro-poor personnel spending, and admissions quotas) lean on the privileged part of the school system (both public and private) in an attempt to offer improved educational opportunities to poorer learners. This is both through increased access to well-resourced public and private schools, as well as additional, targeted resources to improve learning outcomes in the no-fee schools which they currently find themselves in. While policies seeking to increase

¹⁵The DBE (2018, p. 33) report that according to the General Household Survey of 2016 about 1.8% of learners paid school fees of R20,000 or more. Given that there are 12,932,565 children in the schooling system (DBE 2016b, p. 1) this amounts to about 232,786 learners.

¹⁶This is based on Matric 2014 data for the Western Cape which has the most reliable fee data in the country (see Motala and Carel in the present volume). The exact statistic is that among schools charging more than R20,000 fees per year 81.8% of matrics receive bachelor passes compared to 31% among those charging less than R20,000 (including no-fee schools).

access to the fee-charging (and functional) part of the schooling system only affect a modest number of learners, these policies are of tremendous symbolic value and are disproportionately important given that the impact of higher education (and the subsequent labour-market prospects it provides) is arguably largest for the poorest communities.

1.8.2 Stopping the Decline in Per-Learner Funding

One of the underappreciated trends of the last 7 years is the declining per-learner public expenditure on basic education in real terms. It is difficult to think of any scenario where the South African education system becomes significantly *more* equitable with *fewer* resources than it has now. If anything, a decline in public funding is likely to exacerbate inequalities since it would increase the resource gap between fee-charging and no-fee schools. To be specific, between 2010 and 2017 there has been an 8% decline in per learner expenditure in purchasing power terms.¹⁷ The reason this fact has gone largely unnoticed in South Africa is that they are hidden in aggregate figures and discounted using the wrong inflation rate. The *total* expenditure on basic education has *increased* by 7.5% per year between 2010 and 2017 to keep up with Consumer Price Index (CPI) inflation over the period. But CPI is the wrong index to deflate education expenditures since more than 80% of expenditures are on teacher salaries rather than a typical basket of goods. The salient question when discounting expenditures on education is thus, “What resources are required in 2017 to buy the same level of inputs used in 2010?” While inflation meant that the average basket of goods in 2017 was 45.7% more expensive than it was in 2010, teacher salaries over the same period increased by 64.7% due to above inflation wage agreements in the Education Labour Relations Council (ELRC). The second, and more important factor, is that the total number of learners across which the budget must be spread has been increasing significantly. Between 2003 and 2005 there was a large increase in births¹⁸ of around 13% which led to a 13% rise in Grade 1 enrolments from 2009 to 2015 which has gone largely unnoticed by government officials (Gustafsson 2018b). Although births per year did come down somewhat in around 2008, the current levels are still higher than the pre-2003 levels. Seen together, these two factors explain why there has been an 8% decline in real per learner expenditure on basic education.

¹⁷This is based on my own calculations using Treasury’s Estimates of Public Revenue and Expenditure (EPRE) data which is available on their website.

¹⁸This demographic phenomenon has been confirmed by Home Affairs birth registration data as well as age-specific data in the Department of Basic Education’s Annual Survey of Schools (ASS) and the Learner Unit Record Information Tracking System (LURITS). The leading explanation is that the rise in births coincides with the roll out of Anti-retroviral (ARV) treatment. Thus larger cohorts of children have been moving through the schooling system, with the ‘surge’ reaching Grade 8 in 2018

Unpacking the education budget and discussing discount rates and demographic trends may seem an odd approach to framing equity and inequality in education. Yet it is difficult to think of a single factor other than the budget that has more impact on the lived reality of poor children in South Africa or on the equity of educational inputs and outcomes. The decline in state funding over the last 7 years is already starting to show up in international assessments. According to PIRLS the average class size in Grade 4 was 40 in 2011 which has now increased to 45 learners per class in 2016 (Howie et al. 2018, p.127). Yet this masks that the largest increases were found in the poorest schools. Among the poorest 60% of learners, class sizes experienced by the average learner increased from 41 to 48 learners per class between 2011 and 2016 (own calculations). For the richest 10% of learners, class sizes increased from 33 to 35 learners per class over the same period. This decline in funding is one of the leading explanations for the ‘stalling’ of educational improvement since 2011 described above. Moving towards a fairer distribution of teachers, resources or learning outcomes is not possible when the overall pie is shrinking, a shrinking that is felt most severely by the poorest learners.

One further point on overall funding that is worth mentioning is that South Africa spends a lower percentage of its GDP on education than all of its neighbouring countries. This is counter to what many South African commentators believe. According to the latest year for which data is available on the UNESCO Institute for Statistics platform (<http://data.uis.unesco.org/#>) these are: South Africa (5.9%), Botswana (9.6%), Lesotho (11.4%), Mozambique (6.5%), Namibia (8.3%) and Zimbabwe (7.5%). Granted these regional figures are high by international standards.

1.9 Conclusion

In sum, there is no route to a more equitable South African education system that does not first chart the path of the development and distribution of teachers, and second who has access to the functional part of the schooling system. Neither of these are possible without significant buy-in from the majority teacher union, SADTU, which is itself not possible without the ruling party expending significant political capital ensuring productive labour-relations. Providing teachers with meaningful learning opportunities, being more selective about who is accepted to teacher training programs, incentivizing the best teachers to teach in the most challenging contexts, eradicating infrastructure backlogs, providing high quality early childhood education opportunities (and these are just some of the proposals put forward in this edited volume) are not possible without significant additional resources. Critiques of underspent budgets (Equal Education 2016), corruption, capacity constraints etc., while all valid, should not detract from the overall message that targeted interventions can and do improve the lives of the poorest South Africa learners and do not have to be prohibitively expensive. The National School Nutrition Programme (NSNP), the DBE Workbook initiative, and the Early Grade Reading Study (EGRS) are three good examples of large-scale government

initiatives that have significant price tags and significant impact. Furthermore, the above-mentioned critiques should not stand as cover for the problematic decline in overall state spending on education per learner in purchasing power terms.

It cannot be denied that the level of inequity that exists in South African education today has been heavily influenced by apartheid. Access to power, resources and opportunities – both in school and out still follow the predictable fault lines of apartheid. Yet while these patterns are historically determined, it is also an ongoing choice to tolerate the extreme levels of inequity and injustice that are manifest in our schooling system. Because South Africa is still not willing to pay the price for greater equity, gross inequity is becoming the new norm. While there has been some tinkering around the edges of the political and economic possibilities available to us, we cannot point to a country-wide initiative that has made significant inroads into the gross inequity of the distribution of teachers, educational resources or learning outcomes in South African schools. Until such a time as equity in South Africa is seen by the public as an issue of historical justice that requires immediate action, and not merely an inconvenient allocation of resources and privilege, it is difficult to imagine the types of policies and budget reallocations necessary for a more just society.

Appendix

Table 1.1

Category	Sub-category	Grade 3		Grade 4	Grade 5	Grade 6		Grade 9	Grade 12						
		V-ANA 2013		PIRLS Lit. 2016	TIMSS-N 2015	V-ANA 2013		TIMSS 2015	Matric 2018						
		% passing Maths (50%+)	% passing HL (50%+)	% Reaching Low Int. Reaching Bench-mark	% Reaching Low Int. Math Bench-mark	% passing Math (50%+)	% passing HL (50%+)	% Reaching Low Int. Math Bench-mark	% Taking Maths	% Passing Maths (40%)	% Passing Maths (60%)	% Taking PhySci	% Passing PhySci (40%)	% Passing PhySci (60%)	% receiving Bach Pass rate
Race	Black	48%	39%			19%	70%		45%	12%	3%	32%	13%	4%	23%
	Coloured	61%	47%			31%	74%		22%	10%	3%	14%	7%	3%	32%
	Indian	46%	36%			55%	88%		59%	42%	22%	41%	34%	21%	60%
	White	85%	76%			74%	96%		48%	40%	21%	33%	28%	17%	78%
Fees	No-fee	44%	36%		25%	15%	55%		41%	11%	3%	32%	12%	3%	31%
	Fee-charging	74%	59%		67%	50%	85%		46%	18%	7%	30%	15%	6%	23%
Gender	Boys	49%	48%	16%	36%	21%	71%	33%	42%	16%	5%	30%	14%	6%	27%
	Girls	55%	35%	28%	42%	26%	81%	36%	45%	13%	4%	32%	13%	4%	28%
Indep Schools	Public				37%				43%	13%	4%	31%	13%	5%	27%
	Indep				84%				48%	25%	10%	34%	21%	10%	46%

Province	Eastern Cape	45%	28%	15%	26%	8%	57%	24%	53%	12%	3%	35%	12%	4%	22%
	Free State	48%	53%	27%	37%	24%	82%	32%	37%	16%	5%	29%	15%	5%	32%
	Gauteng	61%	51%	31%	52%	37%	86%	49%	35%	17%	6%	27%	15%	7%	39%
	KwaZulu-Natal	55%	47%	18%	34%	31%	79%	34%	50%	13%	4%	31%	13%	5%	26%
	Limpopo	39%	33%	9%	25%	13%	88%	29%	47%	13%	4%	37%	14%	4%	19%
	Mpumalanga	48%	37%	17%	40%	18%	79%	31%	51%	14%	4%	41%	16%	5%	23%
	North West	43%	32%	22%	28%	20%	76%	25%	29%	11%	3%	24%	11%	3%	27%
	Northern Cape	49%	33%	19%	38%	17%	64%	28%	26%	9%	3%	21%	8%	3%	21%
	Western Cape	70%	55%	45%	69%	43%	78%	44%	29%	16%	7%	20%	12%	6%	40%
	National	52%	42%	22%	39%	24%	76%	34%	43%	14%	5%	31%	13%	5%	28%
Wealth	Quintile 1	45%	37%		20%	13%	55%		47%	10%	2%	34%	12%	3%	18%
	Quintile 2	40%	32%		26%	15%	54%		43%	10%	2%	31%	11%	3%	20%
	Quintile 3	49%	37%		31%	16%	59%		40%	10%	3%	28%	10%	3%	22%
	Quintile 4	59%	44%		57%	30%	73%		37%	13%	4%	27%	12%	5%	30%
	Quintile 5	80%	66%		79%	61%	91%		44%	28%	12%	29%	21%	11%	54%

Sources: Own calculations for verification ANA 2013 and matric 2014. For PIRLS Literacy 2016 see Howie et al. (2018), for TIMSS Numeracy 2015 see Isdale et al. (2017), and for TIMSS Grade 9 2015 see Zuze et al. (2017)

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