



Early grade repetition in South Africa

Implications for reading

By Gabrielle Wills
September 2023

Early grade repetition in South Africa: Implications for reading

By Gabrielle Wills¹

September 2023

ABSTRACT

Early grade repetition in South Africa has been used as a remedial strategy in the absence of comprehensive remediation approaches within the education system. Compared to other upper-middle-income nations and certain Sub-Saharan African counterparts, South Africa has high Grade 1 repetition rates although there has been a slight reduction in repetition rates during the COVID-19 pandemic. Given the prevalence of early grade repetition, it is important to examine these patterns, the accuracy of such decisions, and whether there are potential short-term advantages of repetition for acquiring early grade reading skills, specifically decoding skills and fluency in the home language. This analysis takes a twofold conceptual approach to estimating repetition effects, conducting both same-age comparisons and same-grade comparisons of foundational reading skills. The results of same-age comparisons vary, indicating that repeaters might either lag behind their non-repeating counterparts or, optimistically, achieve comparable decoding levels. Conversely, same-grade comparisons suggest that Grade 1 repetition facilitates catching up in decoding skills to match or even surpass what non-repeaters attain prior to moving to the next grade. While short-term effects of Grade 1 repetition are potentially neutral or mildly advantageous, it's worth considering more efficient strategies for addressing educational gaps. Additionally, comprehensive analysis is needed to assess longer-term effects. The study also underscores that although early grade repetition is generally targeted at academically weaker students, it is misdirected in certain instances. Roughly 2-7% of repeaters in grades 1-3 across the examined samples met grade-specific home language literacy benchmarks prior to progression decisions, while a half to a majority of progressing students did not. This highlights the need for improvements in uniform assessment standards to better guide repetition decisions at the school level.

¹ Dr Gabrielle Wills is a researcher at Research on Socio-Economic Policy (RESEP), Stellenbosch University. Email: gabriellewills@sun.ac.za. This paper produced as part of the Covid-Generation project, was made possible by financial support from Allan and Gill Gray Philanthropies. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of Allan & Gill Gray Philanthropies.

SUMMARY

Compared to other upper-middle-income nations and certain Sub-Saharan African counterparts, South Africa has high Grade 1 repetition rates although there has been a reduction in repetition rates during the COVID-19 pandemic. Lowered repetition rates in the Foundation Phase during the pandemic have been sustained into a post-pandemic context. Where repetition may be used as a substitute for systematic remediation, should one be concerned about declining repetition trends in the early grades? In this context, this paper aims to answer three research questions. Are there potential benefits of early grade repetition for early grade reading? Do variations in academic performance exist between students who will progress and those who will be retained, prior to when progression decisions are determined? To what degree are progression decisions mistargeted in relation to a student's level of academic proficiency?

The first and second Early Grade Reading Studies (EGRS), assessing reading outcomes in no-fee schools in North West and Mpumalanga province, are used to address these questions.

1. Are there benefits of early grade repetition for early grade reading?

Tracking a Grade 1 cohort of Setswana home language learners from EGRS I, the identified relationship between early grade repetition and early grade reading outcomes is found to differ depending on the approach and estimation strategy used to estimate repetition effects. Same-age comparisons are initially used, comparing achievement (at the same point in time) across repeated students and their promoted peers who are at least one grade ahead. Using matching techniques, Grade 1 repetition appears to have a negative short-run effect on decoding skills: repeating students sound 10-13 fewer correct letters per minute and read almost 7 fewer additional words during their second year of school relative to promoted peers. As a best-case scenario, using a counterfactual sample of later repeaters who may be more similar to Grade 1 repeaters in their unobserved traits, Grade 1 repeaters catch up to their Grade 2 progressed peers in alphabetic knowledge levels and have similar word reading developmental profiles. However, a same-grade comparison which evaluates the achievement of repeated students against promoted students at the same grade level yields more positive results. Same-grade results (using a later repeater counterfactual sample) suggests that the Setswana home language reading levels of Grade 1 repeaters could potentially surpass the reading levels of those (assessed a year earlier) who advanced to Grade 2 without repeating by as much as 11 correct letters sounded per minute or 4 correct words per minute. Therefore, Grade 1 repetition could facilitate a recovery in foundational decoding skills, thus contributing to overall reading development. Further research is needed though to examine the longer-term effects of being held back in Grade 1 and to examine effects in mathematics.

Repetition beyond Grade 1, however, yields diminishing effectiveness for reading improvements. Repeating Grade 2 or 3 appears to be less efficacious (and potentially more harmful) for reading improvements than repeating Grade 1 in same-age comparisons.

2. Do variations in academic performance exist between students who will progress and those who will be retained, prior to progression decisions?

Students who are repeated during the Foundation Phase exhibit weaker initial reading skills compared to their progressed peers. This finding challenges the notion that repetition is arbitrary or akin to a “lottery” (Lam, Ardington & Leibbrandt, 2011). On average, students who will be repeated in grades 1-3 commence their schooling with comparatively lower levels of language and literacy skills. Students meeting minimum grade-specific reading standards at the end of a grade are far less likely to be subject to repetition.

3. *To what degree are progression decisions mistargeted in relation to a student's level of academic proficiency?*

Instances of misplaced repetition do occur. Between 2-7% of repeated students in the EGRS I and II samples should have been promoted to the next grade based on their attainment of minimum grade-specific literacy standards in grades 1-3. Conversely, a substantial percentage – ranging from a half to majority – of promoted students were not meeting these standards. These findings highlight the need for uniform assessment standards and testing to better guide repetition decisions at the school level.

Even during Covid-19 years when repetition rates declined nationally, repetition rates in some South African provinces remained high relative to middle-income countries and some Sub-Saharan African countries. However, the evidence presented in this paper suggests that in absence of alternative remediation methods, the ongoing decrease in Grade 1 repetition rates (as observed pre-pandemic and during the pandemic) could constrain opportunities for students to catch-up in foundational reading skills. In this context, some of the substantial savings resulting from reduced repetition should be reallocated to facilitate the development and implementation of early grade remediation programmes. Furthermore, it is important to focus on enhancing the quality of Grade R instruction, ensuring students enter Grade 1 equipped with a strong foundation in oral language and with improved alphabetic awareness.

INTRODUCTION

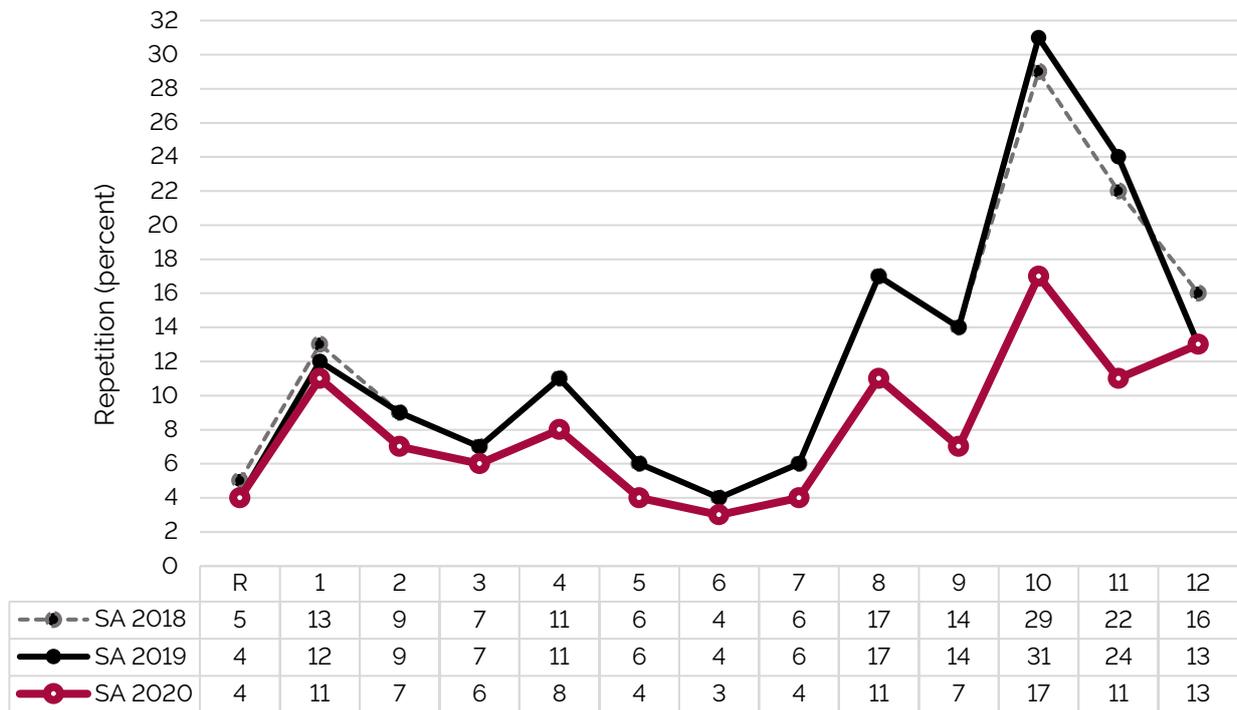
COVID-19 has caused significant disruptions to schooling around the globe. In addition to learning losses (Moscoviz & Evans, 2022; Betthäuser, Bach-Mortensen & Engzell, 2023), other unanticipated disruptions to schooling patterns have also emerged (Schady et al., 2023). In South Africa, learning losses (Ardington, Wills & Kotze, 2021, Mullis et al. 2023) have been accompanied by declines in repetition rates across all grades. The most substantial reductions in repetition rates occurred in grades 10-12 (the Further Education and Training (FET) Phase) driven by more lenient progression policy that affords more prominence to school-based assessment results than examination results (Hoadley, 2023). Even in Foundation Phase grades (grades 1-3) which saw notable learning losses in foundational skills, small reductions in repetition rates were observed despite minimal changes to progression policy. The national repetition rate for Grade 1 decreased from 12% to 11% between 2019 and 2020, the Grade 2 repetition rate decreased from 9% to 7%, and the Grade 3 repetition rate decreased from 7% to 6% (Gustafsson, 2022). In Grade 4, where the language of instruction typically shifts from Home Language to English, the repetition rate decreased from 11% in 2019 to 8% by 2020 (see Figure 1).

It's not yet clear whether lower levels of repetition due to COVID-19 will persist post-COVID. More recent administrative data at a national level is needed to explore this. Nonetheless, data from the Education Management Information Systems (EMIS) of three of nine South African provinces reveals that repetition rates declined in all grades at the end of 2020, recovered slightly in 2021 but remained lower relative to 2019 (Wills & Van der Berg, 2022, Van der Berg et al 2022). This preliminary evidence suggests that repetition rates have settled at lower levels.

Where repetition may be used as a substitute for systematic remediation, should one be concerned about declining repetition trends in the early grades? Research indicates that gaps in learning emerging in the early grades tend to persist, leading to growing disparities in educational achievement as students advance through the grades (Spaull & Kotze, 2015). In reading, failing to gain mastery in foundational reading skills such as alphabetic knowledge and reading fluency can severely curtail comprehension and learning in later grades (Double et al. 2019). Foundational literacy instruction is not included in the curriculum beyond grades 1-3, leaving little room for learners to 'catch-up'. Furthermore, apart from initiatives in the Western Cape province, minimal efforts have been undertaken nationally to implement meaningful remediation or early-grade catch-up programmes to address extensive learning setbacks caused by COVID-19 (Hoadley, 2023). In this context, could unplanned reductions in Foundation Phase repetition impact on the acquisition of crucial foundational skills?

A large literature examines the impacts of repetition on learning, identifying both short- and long-term impacts. Overall, the benefits of repetition (otherwise referred to as retention) are at best limited. As Valbuena (2021: 409) reflect on the findings of a synthesis of literature, "grade retention is unlikely to be an efficient policy as the costs associated to the policy can easily outweigh the potential (weak) benefits of retention". Repetition only yields positive short-run effects in specific institutional settings, and when used in combination with alternative remedial strategies such as summer school, instructional support and better-quality teachers (Valbuena et al., 2021: 409).

Figure 1: National repetition rates by grade before and during the COVID-19 pandemic



Source data: Gustafsson (2022), Table 6 estimates from LURITS 2018-2019, 2020-2021. The UNESCO method of calculating repetition rates is *not* used here. Rather these estimates are obtained from longitudinal data that tracks individual students across grades. Repeaters are those identified as in the same grade as the year before using learner unit record data. Repetition rates in 2018 reflect non promotion from 2018-2019, repetition rates in 2019 reflect non promotion from 2019-2020, and repetition rates in 2020 reflect non promotion from 2020-2021.

Despite no systematic evidence on the impacts of grade repetition on learning in South Africa, there is agreement that the prevalence of grade repetition has been excessive and linked to various pecuniary and non-pecuniary costs. Using a conservative estimate from 2018, the number of South African learners across all public schools retained in grades 1-12 was about 1 180 000, nearly 10% of all learners² in the public school system in 2018. As a rough estimate, having repeaters in the public education system was costing around R20 billion (in 2018 prices) annually³, equating to 8% of the total national budget allocated to basic education in 2018/2019 (Van der Berg et al., 2019). The costs of repetition for the country are further augmented when considering that repeaters are more likely to drop-out of school (Branson, Hofmeyr & Lam, 2014; Van der Berg et al., 2019), with implications for future life-time earnings and taxes collected. Additionally, in a context of large class sizes in South Africa which are high even by developing country standards (Van der Berg, Gustafsson & Burger, 2020; Wills, 2023), unnecessarily high early grade repetition further exacerbates this problem, and can lead to overcrowding of classrooms (Weatherholt et al., 2019). In the absence of standardised assessments at the primary level and weak school-based assessment practices (Van der Berg & Shepherd, 2015), concerns

² There were 12,2 million children in the public school system in 2018 and a further 399 thousand in private schooling.

³ Estimate obtained by multiplying repeater numbers by the average unit cost of educating a student in the public schooling system in South Africa.

have also been raised that repetition decisions are poorly applied, particularly in less resourced school contexts (Lam, Ardington & Leibbrandt, 2011).

Against this context, this paper has three aims. The first is to provide further specificity on early grade repetition patterns in South Africa. The second is to interrogate the fidelity of progression and repetition decisions in the Foundation Phase (grades 1-3) in relation to three sub-research questions. Are learners that will be retained in early grades much more behind academically their progressed peers? Prior to when progression decisions are made, to what extent are their differences in the academic performance of those that will be progressed and those retained? What is the extent of misclassification in decisions to progress learners? Answering this question relies on using newly established early grade reading benchmarks (Ardington et al., 2021) as a signal of being on track. A third aim of the paper is to examine whether there are any benefits of repetition for early learning in South Africa, particularly in the Foundation Phase where mastering basic literacy and numeracy skills is crucial to effectively accessing the curriculum in later grades.

The next section offers international insights on repetition's impact on learning and examines South Africa's early grade repetition rates before and during COVID-19, comparing them with other middle-income and Sub-Saharan African countries. Sections 3 and 4 detail the data and estimation approach used to estimate repetition effects in South Africa, while Section 5 provides a descriptive analysis of the data. Section 6 and 7 present the econometric results using two conceptual approaches to estimating repetition. Prior to the paper's conclusion in Section 8, focus is directed towards evaluating the degree of misdirected repetition in Section 7.

BACKGROUND

Repetition and learning: International evidence

There are strong arguments for and against repetition as summarised in Table 1. Attempts to identify any benefits of repetition on academic outcomes should be weighed against the cost of repetition policy (Valbuena et al., 2021). Critics of repetition policies contend that it ranks among the most financially burdensome education strategies, suggesting that funds allocated to support repeaters could be better utilised. In countries such as Belgium, Spain, the Netherlands, and Portugal, repetition is projected to consume approximately 10% to 12% of total primary and secondary education expenditure. Similarly, in Brazil, Germany, and Italy, this expense ranges from 5% to 10% (OECD, 2011). In systems with high pupil-to-teacher ratios, repetition worsens the issue. Studies highlight negative psychological effects and increased dropout risks for repeaters, as seen globally and locally (Lam, Ardington & Leibbrandt, 2011; Fruehwirth, Navarro & Takahashi, 2016). In a society concerned with addressing inequities in educational access, repetition can also lead to social exclusion of the poorest students from higher grades if they are more likely to repeat than wealthier students.

Contingent upon whether repetition results in enhanced learning or "catch-up," the advantages of early grade repetition for governments and schools encompass savings in later-age remediation costs, diminished variability in learner capabilities within classrooms, and better

alignment between learner abilities and grade-oriented curricula. The ultimate assessment of repetition's cost-benefit balance hinges on the magnitude of learning enhancements, if they exist, and the degree of correlation between repetition and dropout rates.

However, estimating the effects of repetition is complex due to the need to address non-random selection into repetition. A key determinant of grade repetition, both in developed and developing nations, is poor academic performance. Additionally, repeated students may diverge from their non-repeating peers in non-academic aspects. Factors such as maladaptive behaviour, lack of confidence, or being less self-assured may lead to repetition for certain students over others with similar academic profiles (Jimerson & Ferguson, 2007).

In relation to first-grade repeaters specifically, research by Goos et al. (2013) demonstrates that these students exhibit a lag in various psychosocial skills compared to similarly at-risk peers in their grade who were promoted in their primary school career. Typically, there is negative selection into repetition. Previous meta-analyses examining repetition effects, incorporating studies with varying degrees of attention to non-random selection, have revealed that the (negative) effect sizes of repetition on child outcomes are moderated when more rigorous methodological approaches to control for non-random selection are used (Valbuena et al., 2021).

In a meta-analysis, Valbuena et al. (2021) review 42 papers from 2001 to 2020 that adopt various identification strategies to isolate causal effects of retention policy on academic outcomes, dropout and labour market outcomes. Instrumental variables (IVs), regression discontinuity designs (RDD) or structural models are used to address selection bias and unobserved heterogeneity. Across the causal studies reviewed, learning effects vary depending on the timing of imposed repetition policy, how comparison groups are selected, the length of time over which effects are evaluated and across institutional settings (Valbuena et al., 2021: 408). A common conclusion is that there can be short-term positive effects of early repetition but that these benefits tend to dissipate as students advance to higher grades. Repetition at later primary school grades is typically more harmful and turns into severe negative effects in secondary school (Diris, 2017). Overall, Valbuena's review finds that early grade retention may have positive effects on short-term student outcomes, but there are more detrimental effects of retention at higher grade levels (Valbuena et al., 2021: 424). They qualify that the evidence on long-term effects is scarce but what is available points to long-term detrimental impacts of grade retention.

Due to the limited availability of longitudinal data that contains learning outcomes for both repeaters and non-repeaters, there is a dearth of evidence on repetition effects in South Africa. Causal identification of repetition effects using regression discontinuity design or instrumental variables is also constrained in a context where repetition policy is set at a national level. However, one of nine South African provinces, the Western Cape, offers non-causal evidence of repetition effects through systemic testing. A descriptive analysis of this test data suggests varying benefits of repetition across different grades (Van der Berg et al., 2019: 20). At the Grade 3 level, repetition correlates with significant enhancements in language and mathematics scores for students.⁴ Despite considerably higher repetition rates in later school grades in South Africa,

⁴ After repeating Grade 3, the mean language score for repeaters increased from 25.3% to 39.3% - a 14 percentage point increase. Improvements were larger for mathematics. At the end of Grade 3, learners who would repeat the next year increase their mathematics scores from 32.3% to 53.4% - a 21 percentage point increase (Van der Berg et al., 2019: 20)

the learning gains tied to repetition were notably diminished in Grade 9 compared to Grade 3, particularly in mathematics. While repetition might hold some potential benefit at the Grade 3 level, it appears ill-advised at the Grade 9 level.

Table 1: A summary of the advantages and disadvantages of repetition

Disadvantages of repetition	Advantages of repetition if it leads to improvements in learning
Impacts on government and schools	
Higher spending to accommodate repeaters Foregone spending: How else could the money spent on repeaters have been used? Higher pupil to teacher ratios (and larger class sizes) in early grades Increased range of learner ages within classrooms	Potential reduction in the cost of remediation at later ages Potential reduction in the variability of learner abilities within classrooms, allowing for increased alignment between learner ability and grade-level curriculum.
Impacts on the child	
Potential harmful psychological impacts (lowered self-esteem/motivation and stigmas of failure) Higher risks of drop-out if learners repeat, where lower grade attainment reduces chances of higher employment opportunities and higher earnings after school	Potential for mastery of concepts ('catch-up') Threat of being held back may induce more effort on the part of learners
Impacts on society	
Social exclusion of the poorest learners from higher grades as they are more likely to repeat than wealthier learners (equity)	Improves the signalling of school qualifications in the labour market if grade promotion is more closely tied to mastery of concepts.

Source: Van der Berg et al. 2019

Early grade repetition rates in South Africa pre-COVID-19

In post-apartheid South Africa there have been moves to reduce repetition across all grades, including in the Foundation Phase, through the introduction and implementation of repetition policy. This limits the number of times a child can repeat to once in a school phase (Department of Education (DoE), 1998; Department of Basic Education (DBE), 2012).⁵

Data limitations prevent clear historical comparisons of repetition rates over time in South Africa. Yet different sources point to pre-pandemic reductions in primary level repetition, including in Grade 1 with traditionally the highest repetition at the primary level. For example, in an analysis of learner age in 7 of 9 provinces, the percentage of learners in public primary schools that were

⁵ There are four phases in South Africa: Foundation Phase (Grade 1-3), Intermediate Phase (Grade 4-6), Senior Phase (Grade 7-9) and the Further Education and Training Phase (Grade 10-12). A 1998 guideline for repetition from Grade R-9 was "one year (of repetition) per school phase where necessary" (DoE 1998) and this was then extended to the FET phase in 2013 (DBE 2012).

over-age declined from 2000 to 2009 (Van der Berg et al., 2019). Where over a quarter of Grade 1 learners were over-age for their grade in 2000, this declined to around 12% by 2009. Grade 1 repetition rates calculated using learner-unit administrative records were close to 15% in 2013/14 (Department of Basic Education (DBE), 2016) but had declined to 13% in 2019.⁶ Declining repetition trends continued into the COVID years but for different reasons; namely more lenient progression in a context of cancelled examinations and limited and more lenient assessment informing progression decisions (Hoadley, 2023).

Even at reduced levels, pre-COVID early grade repetition rates have been higher in South Africa relative to other upper-middle-income countries and some other Sub-Saharan African countries. This is illustrated for Grade 1 in Figure 2 and Appendix Figure A 2 demonstrates that primary grade repetition rates overall in South Africa are also relatively high. As a qualifier to this global comparison, repetition rates reported in other countries may be under-estimated relative to South Africa. Early grade repetition rates are often underreported in official statistics in African and Latin American contexts (Crouch et al., 2022). By contrast, South African repetition rates calculated from learner-unit record systems linking learners across years are unlikely to suffer from this issue.⁷ Repetition rates in South Africa calculated from official data sources are higher rather than lower than what is reported by households, especially at the Grade 1 level⁸ (Van der Berg et al., 2019: 29). This is the opposite of a Ugandan situation, for example, where teachers and caregivers report repetition rates that are about four times greater than Ministry reports (Weatherholt et al., 2019).

Even with some underreporting of repetition rates in other countries, Grade 1 repetition rates in South Africa are still likely to be relatively high. This is not due to early parking of children in Grade 1 as is common in other developing countries in the absence of the provisioning of free or affordable Early Childhood Education options⁹, (Crouch et al., 2020: 166). With almost universal access to Grade R, a reception year before the first school year, Grade 1 is typically not a substitute for pre-primary in South Africa. A more plausible explanation for high repetition is that it has become a normalised practice, what Eisemon (1997) refers to as 'cultures of repetition'. The historical practice of keeping back academically weak learners gains legitimacy and creates expectations of high repetition rates that in turn feed into decision-making regarding learner promotions. Grade 1 repetition in South Africa could also be perceived as a tool for improving students' school readiness or as a remediation tool in the absence of any national remediation

⁶ Unfortunately, a direct comparison of LURITS data over time is complicated by improvements to the quality of LURITS data in recent years relative to earlier years. Grade 1, 2 and 3 repetition rates in household surveys from 2013 to 2018 also suggest declines in repetition rates.

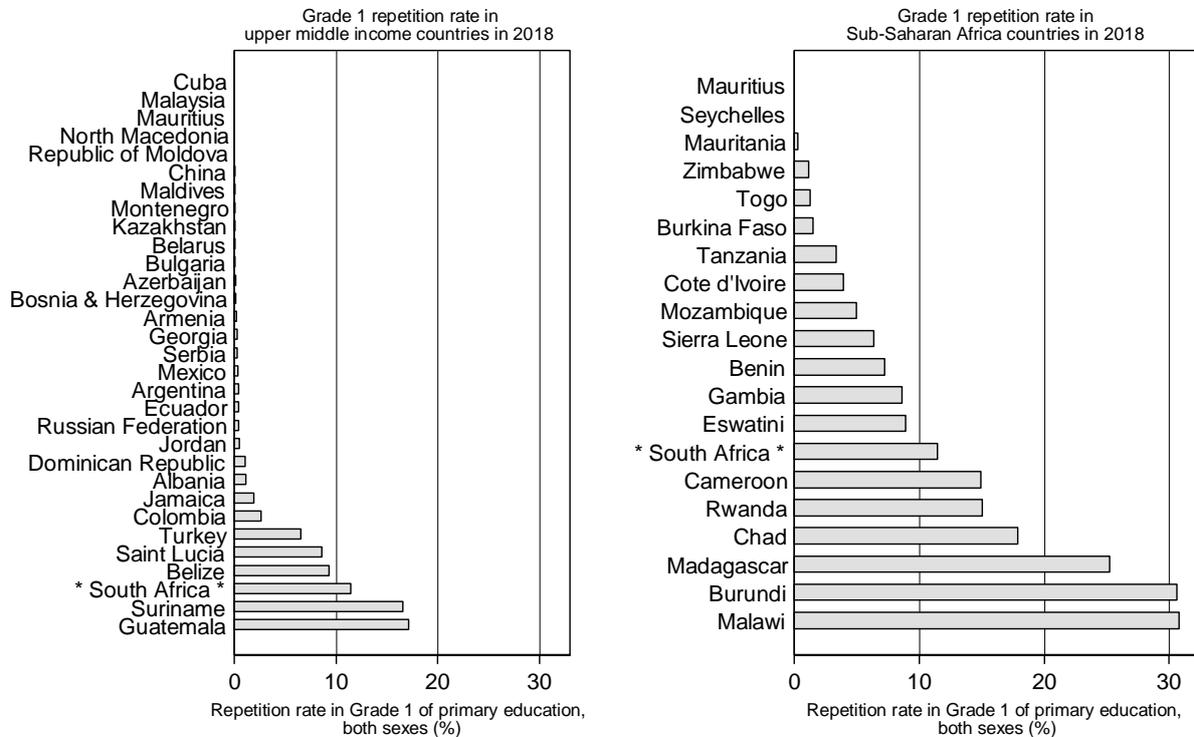
⁷ If using the UNESCO method of identifying repetition rates using EMIS "cross sections", taking the number of repeaters in a grade divided by enrollment in the grade in the previous year, administrative statistics can underestimate repetition rates if missing repeater data is entered as zeros.

⁸ The Grade 1 repetition rate calculated from the 2018 General Household Survey, for example, is less than half that seen in 2018 EMIS data (Gustafsson, 2022: 22). Furthermore, higher Grade 1 repetition rates relative to other primary grades are not reflected in General Household Surveys from 2009 to 2018.

⁹ Where Grade 1 is viewed as a substitute for pre-primary, parents may send their children to Grade 1 earlier than the official starting age, in full expectation that they might repeat or learn less.

initiatives. This practice continues in South Africa despite limited evidence locally on whether early grade repetition has any positive remediation effects.

Figure 2: Grade 1 repetition rates in upper middle income and Sub-Saharan African countries, UIS Statistics 2018



Source: Repetition rates from UIS Statistics, income and region classifications from World Bank (2023), own graph

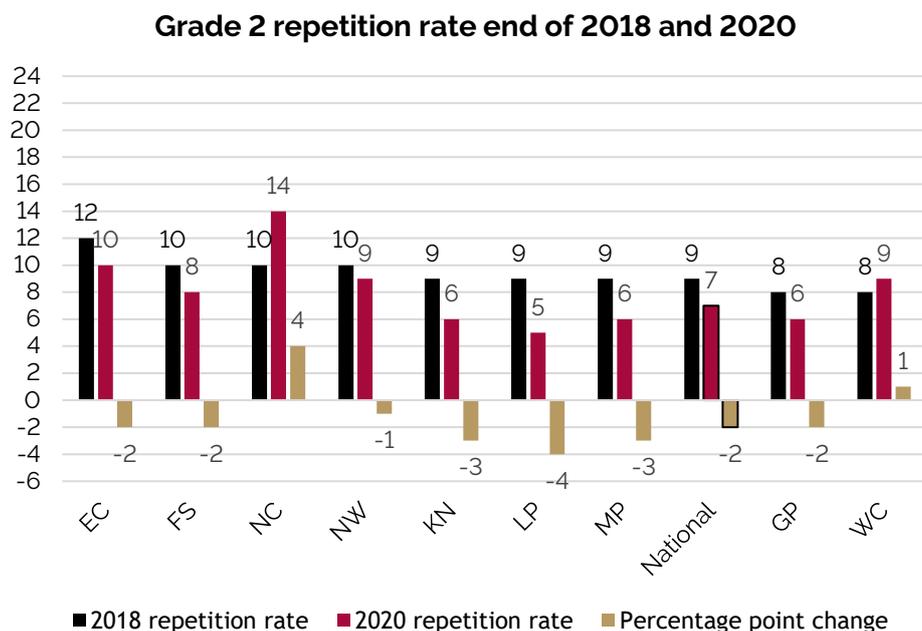
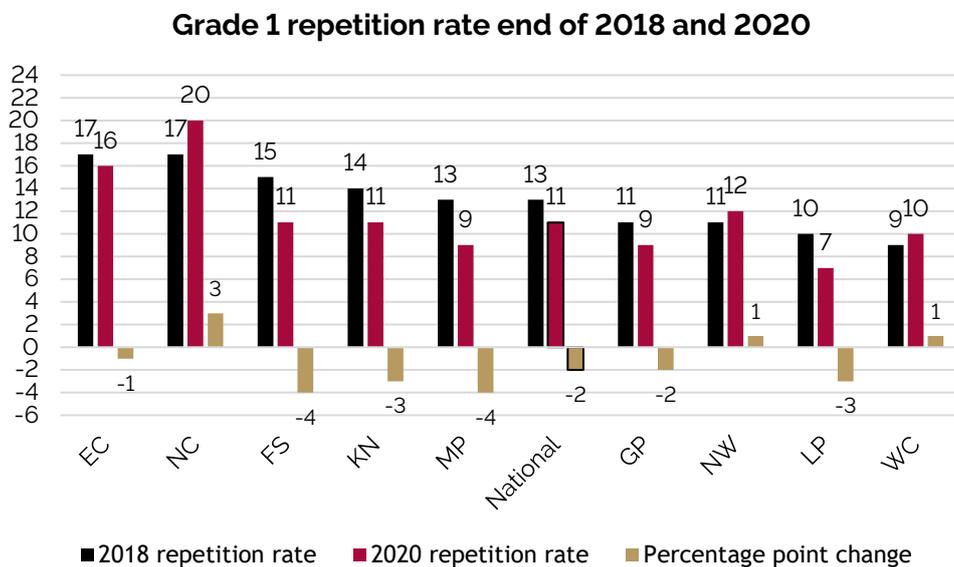
Early grade repetition rates in a pandemic context

Nationally, trends point to a reduction in Grade 1 and 2 repetition rates during the COVID-19 pandemic but even these lower pandemic era rates are high by middle-income standards and relative to other Sub-Saharan African countries. In six of nine South African provinces, Grade 1 repetition rates in public schools declined from 2018 to 2020 (Figure 3). Declines ranged from 1 to 4 percentage points. By exception, Grade 1 and 2 repetition rates rose in the Western Cape and Northern Cape province by between 1 and 4 percentage points respectively, and the North West's Grade 1 repetition rate also increased by 1 percentage point. In both 2018 and 2020, the Eastern Cape and Northern Cape had the highest Grade 1 repetition rates that are almost as large as some of the highest officially reported Grade 1 repetition rates reported in low-income, Sub-Saharan countries (see Figure 2).

Nationally, the lower repetition rates in 2020 in Grade 1 and 2 were also accompanied by higher variability in repetition rates across provinces. The range of repetition rates across nine provinces in 2018 was between 9% -17% at the Grade 1 level but this range had increased from 7% - 20% in 2020. At the Grade 2 level, the provincial range in repetition rates was 8%-12% in 2018 widening in 2020 to 5%-14%. Higher variability in repetition rates during the pandemic may reflect a general education policy move towards devolving curriculum and teaching decisions to schools and

classrooms, weakened controls over moderation, assessment and promotion requirements and removing formal assessment tasks in the Foundation Phase as a response to COVID-19 disruptions to schools (Hoadley, 2023).

Figure 3. Grade 1 and 2 repetition rates at the end of 2018 and 2020 in nine South African provinces and nationally



Source data: Gustafsson 2022, Table 6 estimates from LURITS 2018-2019, 2020-2021.. Percentage point change between 2018 and 2020 shown.

Having considered the literature on repetition effects and situated this study within a view of national trends in grade repetition, the next section outlines the data to be used to analyse early grade repetition effects in South Africa.

DATA

To examine repetition effects, data from two reading intervention impact studies are used, namely the first and second Early Grade Reading Study (EGRS I and EGRS II) conducted in no-fee schools in two South African provinces.

The EGRS I study in North West province evaluated the short and medium term impacts of an in-person home language teacher coaching model on Setswana language outcomes in primary schools (Taylor et al., 2017). EGRS II, a sister study in Mpumalanga province, evaluated the impacts of a virtual teacher coaching programme, as a potential alternative to in-person teacher coaching (Kotze, Fleisch & Taylor, 2018). These evaluations generated longitudinal datasets on reading by tracking Grade 1 cohorts into higher primary grades. These data have also been used to establish early grade reading benchmarks in Nguni and Setswana-Sesotho languages (Ardington et al., 2021; Wills et al., 2022), to identify COVID learning loss impacts (Ardington, Wills & Kotze, 2021), to examine reading trajectories in home language (Wills, Ardington & Sebaeng, 2022) and language transfer effects (Mohohlwane et al., 2023). These data are also suited to analysing reading trajectories of repeaters and non-repeaters. Within an assessment period, the same tasks were administered regardless of a learners' grade progression status.

EGRS I samples

EGRS I commenced assessing 4 515 Grade 1 learners (with Setswana as dominant home language) in term 1 of 2015 across 230 schools in two North West districts. Excluding 281 identified Grade 1 repeaters in 2015, 4 234 first time Grade 1s are identified in wave 1. By term 4 of Grade 1 (wave 2), 3 904 students were reassessed, a year later 3 505 were reassessed in wave 3 and 3 060 were then assessed in wave 4 (Table 2). With high attrition between waves 4-5 this study does not consider wave 4-5 reading trajectories.

Both attrition and missing assessment data reduce available sample sizes. Attrition refers to children not being tracked into a following wave (see table 2), and in some waves children may be missing task data. Compared to learners with any assessment data in waves 2-4 of EGRS I, learners who fall out of the longitudinal sample by wave 4 (either through attrition or missing assessment data) are slightly weaker academically, reading a word less per minute at the end of Grade 1, and are more likely to be boys. It is anticipated that attrition is likely to be higher among learners who would repeat, so repetition is possibly underestimated among the study samples.

EGRS I estimation samples for the multivariate analysis (after accounting for attrition and missing data on covariates) range from 2 268 to 3 280 learners – roughly 54% to 78% of the original first time Grade 1 cohort in 2015 as seen in Table 3. Repetition rates at the end of Grade 1 range from 12% to 16% across these samples, while repetition rates between the 2nd and 4th year of school are around 16%. The Grade 1 repetition rates in this sample are slightly higher than the repetition rates reported for all Grade 1s in North West public schools in 2018 (see Figure 3).

Table 2: EGRS I and II sample sizes (available sample with any assessment at each wave)

EGRS I, North West					EGRS II, Mpumalanga			
Wave (W)	Grade and Term	Students	Schools	Max possible students as a % of original cohort	Grade & Term	Students	Schools	Max possible students as a % of original cohort
W1	Grade 1 Term 1 2015	4234	230	100%	Grade 1 Term 1 2017	3327	180	100%
W2	Grade 1 Term 4 2015	3904	230	92%	Grade 4 Term 1 2017	3064	180	92%
W3	Grade 2* Term 4 2016	3505	230	83%	Grade 2* Term 4 2018	2759	179	83%
W4	Grade 4* Term 3 2018	3060	225	72%	Grade 3* Term 4 2019	2684	180	81%
W5	Grade 7* Term 3 2021	2211	214	52%	Grade 4* Term 4 2020	2405	179	72%

Source: EGRS I & EGRS II. *Highest grade possible if no repetition. Any assessment refers to having a non-missing score for letter-sound knowledge, isolated word reading or fluency assessment in home language. W = wave. EGRS I sample excludes Grade 1s repeating in 2015 (N = 281). Grade 1 repeaters in 2017 in EGRS II are not identifiable in the data.

Table 3: EGRS I estimation samples and related repetition rates

Outcome estimated	Data waves used	Repetition rate wave 2-3	Repetition rate wave 3-4	N	% of original cohort
a. Estimating alphabetic knowledge: Correct letters-sounded per minute (CLSPM) at end of 2nd year of school	Wave 1-3	15.1		3132	74.0%
b. Estimating average annual gains in isolated word reading in 2nd year of school (wave 2-3)	Wave 1-3	15.1		3072	72.6%
c. Estimating average annual gains in reading fluency in 3rd and 4th year of school (wave 3-4)	Wave 1-4	12.4	16.3	2268	53.6%
d. Same grade analysis: Estimating end of Grade 1 alphabetic knowledge	Wave 1-3	16.1		3280	77.5%
e. Same grade analysis: Estimating end of Grade 1 isolated word reading	Wave 1-3	16.1		3275	77.4%

EGRS II samples

At the start of 2017, 3 327 Grade 1 learners across 180 schools in two districts in Mpumalanga¹⁰ were assessed for the EGRS II impact evaluation. Their dominant home language is an Nguni language (Siswati or isiZulu). There were five assessment waves. Wave 2 was conducted in Term 4 of 2017, wave 3 in Term 4 of 2018, wave 4 in term 4 of 2019 and finally the fifth wave occurred in Term 4 of 2020 (despite COVID-19 disruptions) when the majority of learners would have been in Grade 4 (if they never repeated) (see Table 2). From wave 1 to 5, a balanced student panel with any assesment in each year is 64% of the original sample.

Both EGRS I and II follow Grade 1 cohorts into primary school grades supporting descriptive analysis of repetition and learning trends. But the econometric estimations only use EGRS I data for two reasons. First, in EGRS I wave 1 an attempt was made to identify if Grade 1s in 2015 were in Grade 1 in the previous year so that a cohort of *first-time* Grade 1s can be tracked. This is not possible in EGRS II. EGRS II also did not administer home language tasks at the end Grade 1 which can be compared to assessments in other waves. This limits the estimation of early grade repetition effects. By contrast in EGRS I, across waves 2-4 there is a high degree of similarity in the administered home language reading tasks which assessed alphabetic knowledge, isolated word reading and oral reading fluency. For both the EGRS I and II studies, reading tasks assessed and their comparability across years is shown in Appendix Table A 1.

In both descriptive and econometric analyses, treatment and control schools are pooled together.

ESTIMATION APPROACH AND STRATEGY

In the literature, there are two different conceptual approaches to estimating repetition effects. The first to use same-age comparisons which evaluate students' achievement after repeating against that of their promoted peers who are at least one grade ahead. The original age cohort is compared within the same time period. The second approach is to apply a same-grade comparison which evaluates the achievement of repeated students against promoted students at the same grade level. In application, repeated students' performance is assessed at least one year later than their promoted peers from the same cohort.

Same-age comparisons arguably present a better counterfactual as one evaluates how students would have fared in the absence of repeating. This is an appropriate approach where the aim is to measure cognitive or reading development (Fruehwirth, Navarro & Takahashi, 2016). However, this comparison could disadvantage repeated students if they have not been exposed to the same curriculum material as their promoted peers. Same-grade comparisons, by contrast, are set-up so that repeated students have covered the same grade-level material as their progressed peers. This is a preferred approach if the aim is to evaluate the attainment of grade-

¹⁰ The schools were selected to be representative of districts of Ehlanzeni and Gert Sibande in Mpumalanga province with random allocation of qualifying schools to treatment and control groups.

specific knowledge or reading skills. Same-grade comparisons attribute maturation as well as having an additional year of schooling to the effect of repetition. For these reasons, same-age comparisons are expected to yield more negative repetition effects than same-grade comparisons (Valbuena et al., 2021: 147). Both same-age and same-grade comparisons are used in this study.

Same-age comparison estimation strategy

I estimate repetition effects using a same-age comparison using an ordinary least squares regression of the form:

$$Y_{its} = \rho_0 + \rho_1 R_{its} + X_i \delta + \rho_2 Y_{is\ t-x} + Y_s + \varepsilon_{its} \quad [1]$$

where Y_{its} is the reading level at the end of year t or the gain in a reading skill over year t for student i in school s .¹¹ $Y_{is\ t-x}$ is a control for the baseline reading skills of student i at an earlier assessment time, $t - x$, such as school entry. X_i is a vector of student-specific control variables expected to correlate with reading performance (including age and gender), and ε_{its} is an idiosyncratic error term clustered at the school level to allow for correlation in the unobservables between students within the same school. A time-invariant school fixed effect, Y_s is removed by estimating within school effects. The key variable of interest R_{its} takes on a value of 1 if student i in school s repeated the previous grade in year t and 0 otherwise.

Two sets of same-age estimations are run using EGRS I data. First, Grade 1 repetition effects on home language decoding skills are estimated at the end of the 2nd year of school. Two decoding skills are considered: alphabetic knowledge levels (expressed as correct letters sounded per minute (CLSPM)) and gains in isolated word reading (expressed as additional correct words read per minute (CWPM)) over the 2nd year of school. In the second estimation, the effects of repeating the 3rd or 4th year of school on average annual gains in home language reading fluency over the 3rd and 4th year of school are estimated, conditioning on whether the student repeated Grade 1 in 2016. In the EGRS I sample, repeating the 3rd or 4th year of school typically equates to repeating Grade 2 in 2017 or Grade 3 in 2018. Fully progressed learners are in Grade 4 in 2018. Across these two sets of estimations, the choice of controls for reading ability varies. Word reading gains are adjusted to account for differential timing between end of year assessments and can be interpreted as average annual gains in correct words read per minute.

In both the same-age and same-grade comparisons, to address concerns that unobserved non-academic student factors may bias repetition effects, two additional strategies are used to improve the counterfactual sample. Coarsened exact matching (CEM) is used to match student characteristics prior to repeating, matching on baseline reading skills, gender and age. Models are then estimated with the counterfactual group observations weighted¹² according to the outcome of the matching procedure. As an alternative approach, the counterfactual sample is limited to those that repeat in a later primary grade. Students that repeat in Grade 2 or 3 but not in Grade 1 are likely to be more similar in unobserved ways to Grade 1 repeaters than they are to fully progressed students. This is reflected in a comparison of observed characteristics in Table 4. Observed differences across earlier and later repeaters – particularly with respect to Grade 1

¹¹ Grade 1 is assumed to be the first year of school

¹² Using Stata's importance weights.

oral language (phonological awareness) and decoding skills (alphabetic knowledge) – are far less stark than the differences between students who ever repeat and fully progressed students. There are no significant differences across the repeater samples apart from gender and age. CEM and reweighting on the repeater counterfactual sample is also applied to further improve balance in baseline covariates.

Same-grade comparison estimation strategy

Repetition effects using same-grade comparisons are also estimated using an ordinary least squares regression. However, instead of comparing repeaters and non-repeaters' reading performance at the same assessment time t , we are comparing them at the same grade point. This results in a substitution of the t subscripts in equation [1] with a g subscripts as follows:

$$Y_{igs} = \rho_0 + \rho_1 R_{igs} + X_i \delta + \rho_2 Y_{isg-1} + Y_s + \varepsilon_{igs} \quad [2]$$

where Y_{igs} is the reading level at the end of grade g for student i in school s . The key variable of interest R_{igs} takes on a value of 1 if student i repeated the grade in question and 0 otherwise. Y_{isg-1} is a control for the student's baseline reading abilities at an earlier grade assessment $g - 1$.

In application to the EGRS I data, Grade 1 decoding skills for non-repeaters assessed at the end of 2015 are compared to Grade 1 decoding skills of repeated learners assessed at the end of 2016. The decoding skill tasks (letter-sound knowledge and isolated word reading) were virtually identical in wave 2 (2015) and 3 (2016) of EGRS I which supports a same-grade comparison of end of Grade 1 outcomes.

Table 4: Characteristics of repeating versus progressed learners and earlier vs later repeaters in the Foundation Phase, EGRS I

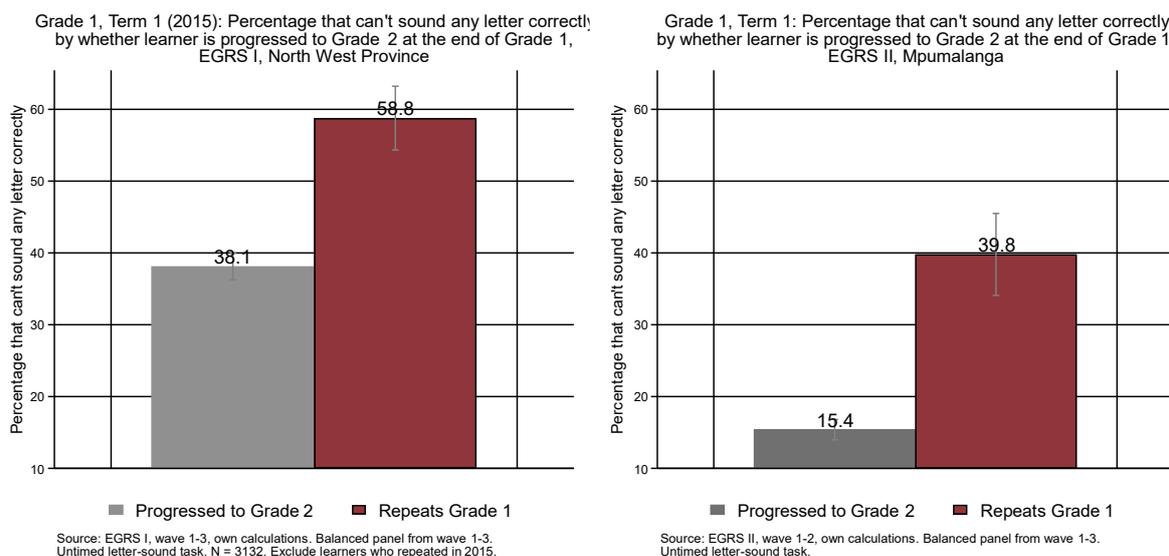
	Comparison 1: Waves 1-3					Comparison 2: Waves 1-4					Comparison 3: Waves 1-4				
	1. Progressed from Grade 1-2		2. Repeats Grade 1		Difference	3. Progressed fully from Grade 1-4		4. Repeats at least once in Grade 1-3		Difference	5. Repeats Grade 1		6. Repeats in 3rd or 4th year of school		Difference
	N	Mean / SE	N	Mean / SE	(1)-(2)	N	Mean / SE	N	Mean / SE	(3)-(4)	N	Mean / SE	N	Mean / SE	(5)-(6)
Start of Grade 1: Zero starting sounds correct (phonological awareness)	2506	0.629 [0.010]	445	0.730 [0.021]	-0.101***	1560	0.596 [0.012]	573	0.745 [0.018]	-0.150***	231	0.740 [0.029]	305	0.744 [0.025]	-0.004
Start of Grade 1: Correct letters sounded (untimed)	2659	5.400 [0.190]	473	2.903 [0.391]	2.497***	1621	6.195 [0.261]	603	3.167 [0.358]	3.027***	241	3.685 [0.686]	325	2.902 [0.386]	0.783
Start of Grade 1: Zero correct letters sounded (untimed)	2659	0.381 [0.009]	473	0.588 [0.023]	-0.207***	1621	0.341 [0.012]	603	0.556 [0.020]	-0.215***	241	0.548 [0.032]	325	0.538 [0.028]	0.009
End of Grade 1: Correct letters sounded per minute (clspm)	2659	26.562 [0.432]	473	7.946 [0.555]	18.617***	1653	30.967 [0.534]	615	9.752 [0.534]	21.215***	245	9.141 [0.829]	333	10.922 [0.758]	-1.781
End of Grade 1: Zero correct letters sounded per minute (clspm = 0)	2659	0.088 [0.005]	473	0.304 [0.021]	-0.216***	1653	0.054 [0.006]	615	0.246 [0.017]	-0.191***	245	0.269 [0.028]	333	0.213 [0.022]	0.056
Female	2659	0.462 [0.010]	473	0.355 [0.022]	0.107***	1653	0.493 [0.012]	615	0.363 [0.019]	0.130***	245	0.327 [0.030]	333	0.393 [0.027]	-0.067*
Age at start of Grade 1 (first assessment)	2659	6.532 [0.011]	473	6.430 [0.024]	0.101***	1653	6.516 [0.014]	615	6.507 [0.024]	0.009	245	6.425 [0.037]	333	6.572 [0.035]	-0.148***
School Quintile 1	2659	0.452 [0.010]	473	0.497 [0.023]	-0.045*	1653	0.453 [0.012]	615	0.434 [0.020]	0.019	245	0.408 [0.031]	333	0.450 [0.027]	-0.042
School Quintile 2	2659	0.309 [0.009]	473	0.298 [0.021]	0.011	1653	0.285 [0.011]	615	0.324 [0.019]	-0.039*	245	0.351 [0.031]	333	0.306 [0.025]	0.045
School Quintile 3	2659	0.240 [0.008]	473	0.205 [0.019]	0.034	1653	0.262 [0.011]	615	0.242 [0.017]	0.020	245	0.241 [0.027]	333	0.243 [0.024]	-0.002
Rural	2659	0.764 [0.008]	473	0.753 [0.020]	0.011	1653	0.740 [0.011]	615	0.730 [0.018]	0.010	245	0.731 [0.028]	333	0.724 [0.025]	0.007

Data source: EGRS I. Notes: The value displayed for t-tests are the differences in the means across the groups. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level. SE = standard error. Comparison sample 1 on EGRS I estimation sample (a) in Table 3 and comparisons 2 and 3 draw on EGRS estimation sample (c) in Table 3.

DESCRIPTIVE RESULTS

Repetition decisions in South Africa are argued as being so weakly applied that repetition, at least at the secondary level, can be likened to a “lottery” (Lam, Ardington & Leibbrandt, 2011). On average, this is not the case in early grades in this study; albeit finding some evidence of mistargeted repetition decisions. Repeaters in the Foundation Phase are on average less prepared entering school with lower levels of phonological awareness compared to progressed learners (see Table 4) and are more likely to be alphabetically illiterate (unable to sound one letter correctly) (see Table 4). For example, almost three quarters (73%) of Grade 1 repeaters enter school unable to sound one of three simple starting sounds from a word compared to 63% of students progressed to Grade 2. Of EGRS I Grade 1 repeaters, 30% can't correctly sound one letter-sound at the end of their 1st year of school compared to 9% of Grade 1s progressed to the next grade. In EGRS II, of students progressed from Grade 1 to 2, 15% enter school unable to sound one letter correctly compared to 40% of students repeating Grade 1 (Figure 4, panel B). This implies that decisions to repeat Grade 1s may be related to concerns about school readiness.

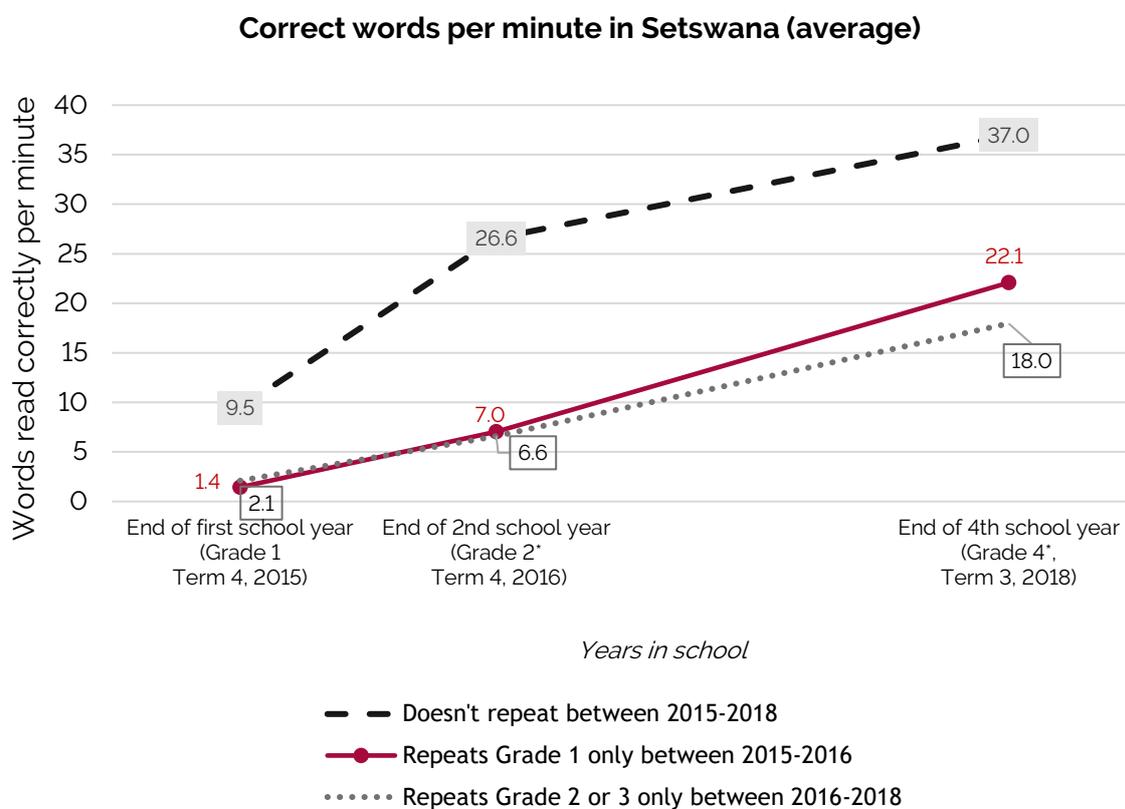
Figure 4: Alphabetic illiteracy (can't sound any letter correctly) at the start of school by students' progression status at the end of Grade 1



Learners that will be repeated at the end of the Grade 1 year or at the end of Grades 2 or 3 also have less developed word reading skills on average than their progressed peers. This is seen in Figure 1 plotting the reading development of a 2015 Grade 1 learner cohort from EGRS I, distinguishing between those that ever repeat Foundation Phase grades and those that are progressed through to Grade 4 without repeating any grade (non-repeaters). From a list of isolated words in Setswana, at the end of Grade 1 students that are held back can read just 1.5 correct words per minute (CWPM) on average compared to 9.4 CWPM among those Grade 1s that reach Grade 4 without repeating.

At no point over the Foundation Phase grades, do repeaters catch-up to fully progressed learners in their reading when assessing their reading levels at the same point in time. After four years of school, fully progressed learners read on average 37 CWPM in Setswana compared to 18 to 22 CWPM read by learners that repeat Grades 1, 2 or 3. A similar pattern is shown if oral reading fluency scores are used.¹³ In a same-grade comparison, however, Grade 1 repeaters at the end of their 2nd school year are almost reading at similar word levels as their progressed peers a year before (7 CWPM vs. 9.5 CWPM). It is noted that reading trajectories for learners repeating more than once between 2015 and 2018 are not shown as this is a small sample (n = 43).

Figure 5: Foundation Phase repetition and reading trajectories in Setswana, EGRS I

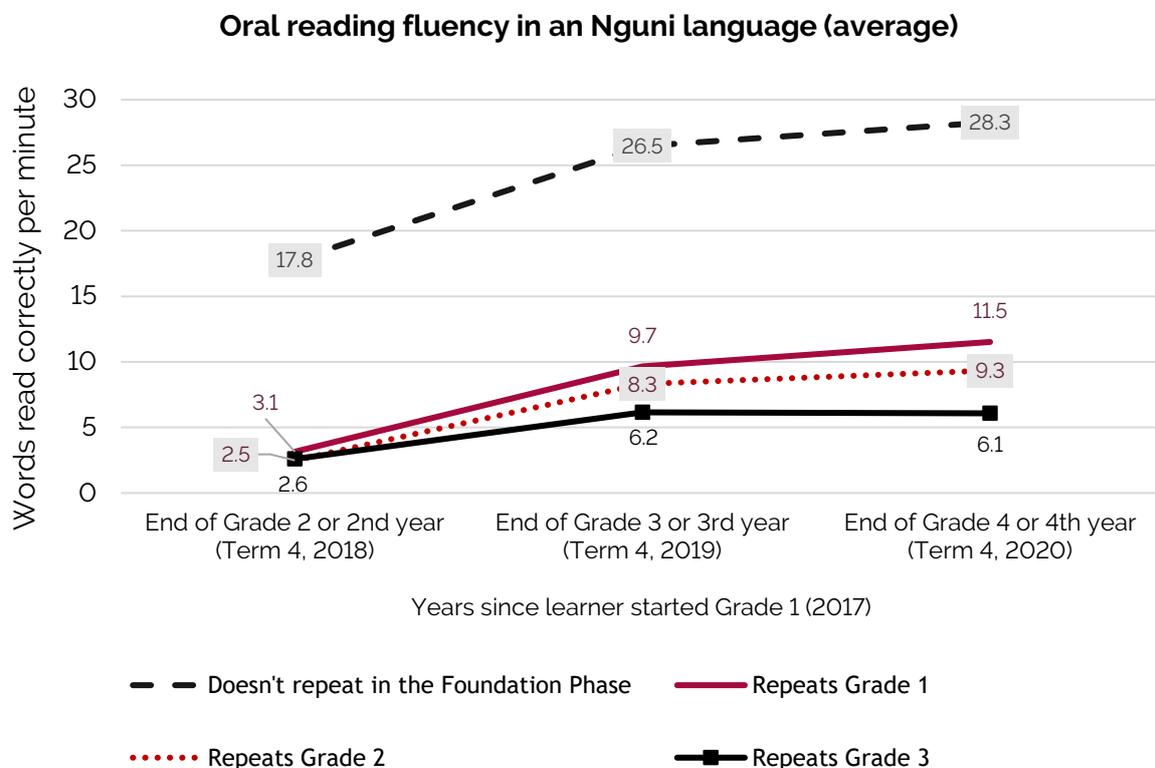


Source: EGRS I wave 2-4, own calculations. Notes: Balanced panel. There are 333 repeaters at the end of 2015, 395 repeaters between 2016 and 2018, and a total of 1856 non-repeaters between 2015 and 2018. Any repeaters in 2015 are excluded. *Reflects highest grade possible if no repetition in any Foundation Phase grade. Trajectories for learners repeating more than once between 2015 and 2018 are not shown as this is a small sample (n = 43). There is no assessment point available at the end of the 3rd year of school. A linear trend is assumed between the end of 2nd year and end of 4th year assessment.

¹³ Oral reading fluency scores derived from passage reading are missing for over 400 learners with isolated word reading scores in wave 2 further reducing the sample. For this reason, isolated word reading scores are preferred in this analysis and are highly correlated with fluency scores.

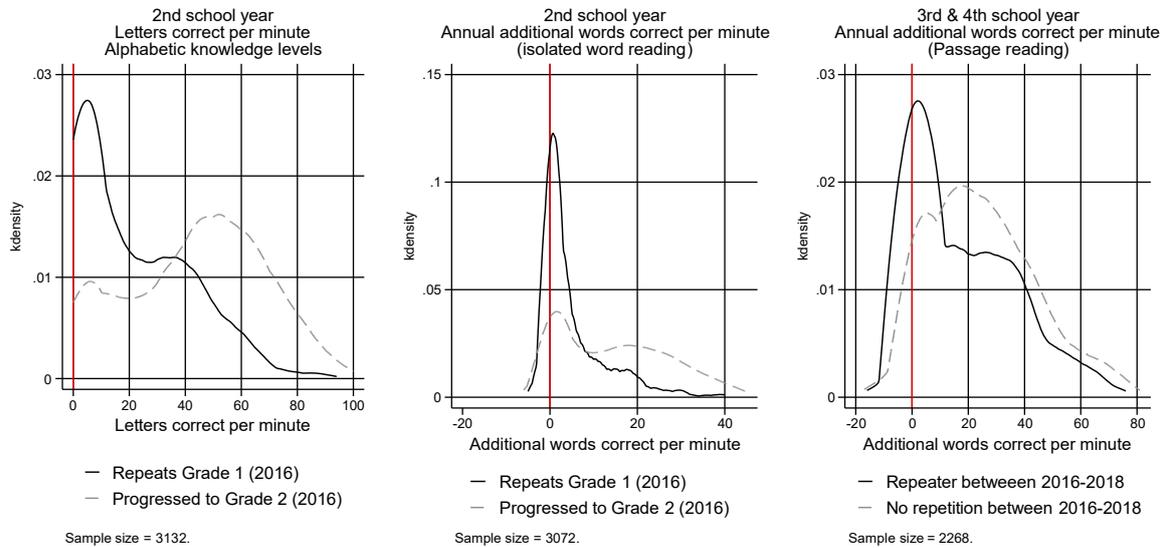
A similar analysis is generated for a 2017 Grade 1 cohort in EGRS II assessed at the end of each school year for four consecutive years (see Figure 5). Of learners that don't repeat any Foundation Phase grade, they can read 18 CWPM from a simple home language narrative passage at the end of Grade 2. By contrast, learners assessed at the end of Grade 1 for the second time (i.e. after two school years) are reading about 3 CWPM from a passage. The gap in reading skills across repeaters and non-repeaters does not close at all by the end of the Foundation Phase or the end of Grade 4. For example, learners that never repeated between 2017 to 2020 are reading 28 CWPM from a Nguni home language text at the end of Grade 4 compared to just 12 CWPM read by learners from the same cohort that repeated the Grade 1 year. COVID-19 disruptions in 2020 affected both repeaters and non-repeaters, as seen in very flat reading trajectories observed in 2020.

Figure 6: Foundation Phase repetition and oral reading fluency trajectories in Nguni languages, EGRS II



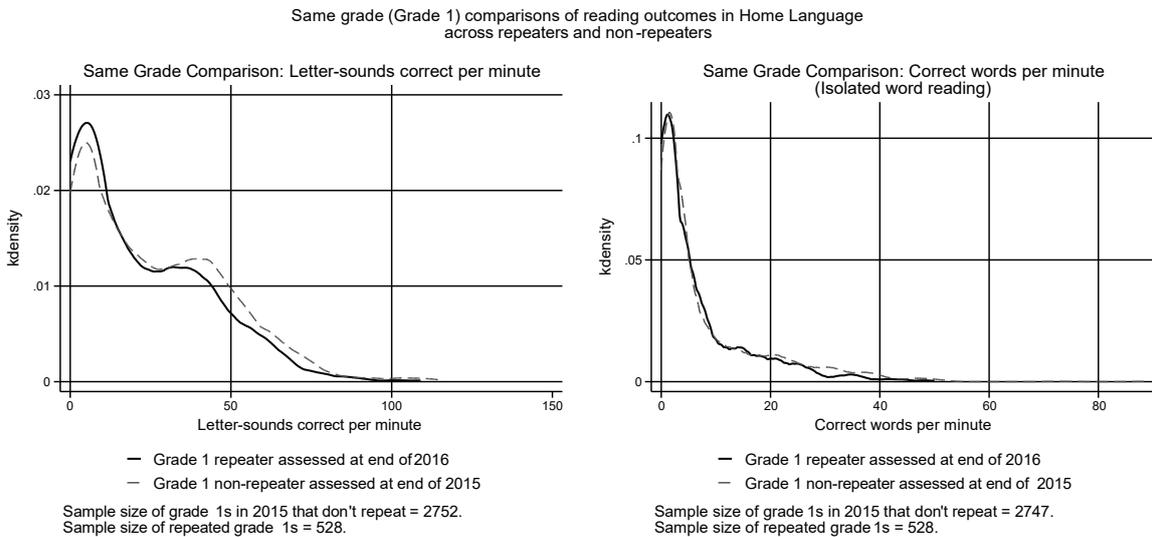
Source: EGRS II wave 1-4, own calculations. Notes: Balanced panel with plausible progression patterns shown for each line. There were 189 repeaters at the end of Grade 1; 164 repeaters at the end of Grade 2; 101 repeaters at the end of Grade 3; and a total of 1665 non-repeaters. Only those repeating once are considered. Less than 20 learners in the panel sample repeat more than once. There is no available home language word reading or fluency task available at the end of Grade 1 in the EGRS II study.

Figure 7: Reading gains over a year across repeaters and progressed learners ("Same-age" comparisons), EGRS I



Source: EGRS I wave 2-4, own calculations.
 Note: All gains are adjusted for the duration of time between assessments and scaled to one year to reflect average gains per year. Values trimmed at 1st and 99th percentile.

Figure 8: Same-grade (Grade 1) comparisons of reading outcomes in home language across repeaters and progressed learners, EGRS I



Source: EGRS I wave 2-4, own calculations.

Not only are reading levels lower among repeaters compared to non-repeaters in the Foundation Phase but their distribution of reading gains over a year are the same or worse in a same-age comparison. As seen in Figure 7 using EGRS I data, the distribution of annual gains in word reading or fluency during a repeated Grade 1 year lie to the left of that experienced by progressed peers in Grade 2. In these same-age comparisons, alphabetic knowledge levels after 2 years of school are also evidently better among non-repeaters (panel A of Figure 7).

A same-grade descriptive comparison, however, suggests that Grade 1 repetition supports catch-up (see Figure 8 using EGRS I). The distribution of students' decoding skills, as measured by alphabetic and word reading skills appears quite similar across repeaters and non-repeaters at the end of Grade 1. But a null hypothesis that the distributions are equal is rejected using a two-sample Kolmogorov-Smirnov test for equality of distributions.

ESTIMATION RESULTS: SAME-AGE

Having descriptively evaluated how reading outcomes differ across repeaters and non-repeaters, the econometric analysis that follows aims to control for observed and potentially unobserved differences across these groups that may be correlated with repetition and reading outcomes. Repetition effects are first estimated using a same-age comparison then a same-grade comparison approach.

Decoding skills in the first two years of school: Alphabetic knowledge and isolated word reading in home language

Estimates of the relationship between Grade 1 repetition and students' alphabetic knowledge levels at the end of the 2nd year of school (2016) are shown in Table 5 using EGRS I data. Alphabetic knowledge levels of students that repeat Grade 1 (in 2016) are compared at the same assessment point to those of students progressed to Grade 2 in 2016 in models 1-5.

A strong negative bivariate association between Grade 1 repetition and end of Grade 2 alphabetic knowledge is seen in model 1. From model 2 to 3, negative selection into repetition is apparent as the coefficient on Grade 1 repetition more than halves (-22.15 to -9.01) as more learner characteristics are controlled for. A student's end of 2015 alphabetic knowledge levels are strongly positively associated with their end of 2016 alphabetic knowledge levels and are significantly negatively correlated with repetition, accounting for the over half of the negative coefficient on "Repeated Grade 1". Additionally, learners who couldn't sound any letter correctly when starting school, have significantly lower alphabetic knowledge levels at the end of the second year of school. Girls have more alphabetic knowledge (and higher word reading and fluency levels) than boys - a consistent and robust result observed in all models.

Introducing school fixed effects in model 4 slightly strengthens the negative coefficient on "Repeated Grade 1" from -9.01 in model 3 to -10.7 in model 4 suggesting that school average performance and repetition are negatively correlated. In model 5, estimated on the CEM weighted sample, the coefficient remains negative at -13.7 although only a 3rd of the available sample could be matched in model 5.

Models 4-5 may still suffer from omitted variable bias if repeaters differ from non-repeaters in their non-academic attributes. Used as a counterfactual group to Grade 1 repeaters, later repeaters may be more like earlier repeaters in their underlying unobserved traits. In model 6, Grade 1 repeaters are compared to a counterfactual sample of learners who will repeat later in year 2 or 3 of school. The model includes individual controls and school fixed effects and model 7 further improves balance using a CEM weighted sample of repeaters (matching 68% of the repeater sample). The coefficient on "Repeated Grade 1" is now less negative and insignificant at -3.16 in model 6 and -3.68 in model 7.

Table 5: Estimating alphabetic knowledge at the end of 2nd school year: Correct letters-sounded per minute (CLSPM), EGRS I

CLSPM levels	Sample: End of Grade 1 progressed learners and Grade 1 repeaters (2016)					Repeater sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Repeated Grade 1	-22.99***	-22.15***	-9.01***	-10.73***	-13.74***	-3.16	-3.68
Female		8.56***	5.96***	5.69***	3.33*	5.44***	4.57
Age		-0.70	-0.77	-0.23	-4.79**	-0.23	-2.49
10-25 CLSPM Delayed decoder (End of Gr.1 2015)			17.14***	16.73***	15.46***	16.36***	12.15**
26+ CLSPM letter decoders (End of Gr.1 2015)			31.06***	27.94***	26.25***	22.80***	22.86***
Can't correctly sound any letter (Start of Gr. 1 2015)			-3.92***	-2.35**	-6.47***	-2.50	-4.95
Constant	44.18***	46.08***	31.30***	27.87***	68.90***	20.60*	41.47*
Adjusted R-squared	0.101	0.128	0.407	0.530	0.521	0.456	0.426
N (Learners)	3132	3132	3132	3132	1178	847	575
N (schools)	230	230	230	230	224	213	193
School fixed effect				X	X	X	X
CEM sample					X		
CEM repeater sample							X

Data source: EGRS 1, wave 1-3. Robust standard errors clustered at school level. Models 1-4 controls for probability weights for attriting out of estimation sample from wave 2. In the repeater sample only learners that repeat either Grade 1, or 2 or 3 are included. Significant at *10% level, **5% level, ***1% level. Matching variables for CEM include gender, age, meeting Grade 1 letter-sound benchmark after first school year, no letter-knowledge and no knowledge of starting sounds at start of school.

Following the specifications in Table 5, Table 6 estimates gains in home language word reading in students' second year of school. In models 1-5, Grade 1 repeaters are compared to their progressed peers and in models 6-7 the counterfactual is limited to later repeaters. Mirroring the patterns seen in Table 5, negative selection into repetition is observed when including controls for students' reading skills at the start or end of their 1st school year. The bivariate association at -9.61 in model 1 halves to -4.68 by model 4. It then increases slightly to -6.56 in model 5 using a CEM weighted sample (matching 72%). When restricting the counterfactual sample to students who repeat later in Grade 2 or 3, the Grade 1 repetition effect on gains in word reading becomes virtually zero (models 6 and 7). Figure 9 summarises the coefficient size on 'Repeated Grade 1' across the different same-age specifications in Table 5 and Table 6. At worst, Grade 1 repetition has a negative short-run

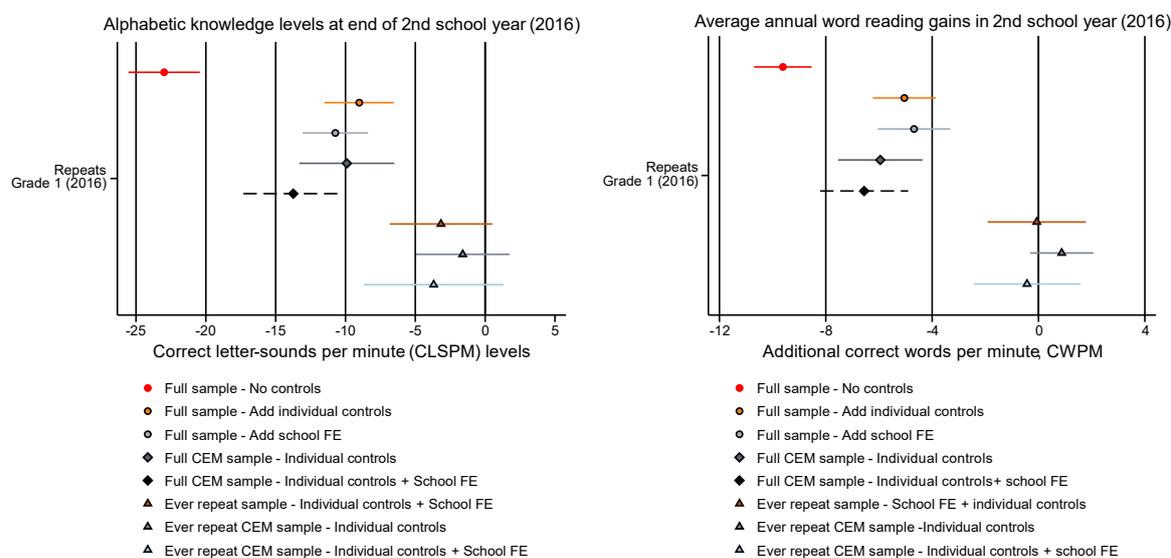
effect on alphabetic knowledge levels with repeaters sounding 10-13 fewer letters correctly per minute at the end of the 2nd school year and reading almost 7 fewer additional words over their 2nd school year (models 4-5). At best, Grade 1 repeaters have reached equivalent alphabetic knowledge levels as their progressed peers but have similar word reading developmental profiles.

Table 6: Average annual gains in isolated word reading in 2nd school year: Additional words read correctly per minute, EGRS I

Gains in correct words per minute (CWPM)	Sample: End of Grade 1 progressed learners and Grade 1 repeaters (2016)					Repeater sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Repeated Grade 1	-9.61***	-9.29***	-5.05***	-4.68***	-6.56***	-0.07	-0.43
Female		3.67***	2.82***	2.31***	1.35	0.66	0.57
Age		-0.66	-0.67*	-0.33	-1.09	-0.32	-1.02
10-25 CLSPM Delayed decoder (End of Gr.1 2015)			6.61***	7.61***	7.91***	3.54***	4.05***
26+ CLSPM letter decoders (End of Gr.1 2015)			10.13***	11.70***	10.05***	7.67***	8.14***
Can't correctly sound any letter (End of Gr. 1 2015)			-0.78	-0.56	-2.17*	0.14	-0.34
Constant	14.59***	18.35***	13.03***	9.47**	18.47**	5.65	11.96
Adjusted R-squared	0.070	0.090	0.202	0.322	0.427	0.260	0.325
N (Learners)	3072	3072	3072	3072	2202	835	751
N (schools)	229	229	229	229	228	212	209
School fixed effect				X	X	X	X
CEM sample					X		
CEM repeater sample							X

Data source: EGRS 1, wave 1-3. Robust standard errors clustered at school level. Gains are adjusted to reflect gains over a year, adjusted for time passed between assessments. Controls for probability weights for attriting out of the estimation sample from wave 2. In the repeater sample only learners that repeat either Grade 1, or 2 or 3 are included. Significant at *10% level, **5% level, ***1% level. Matching variables for CEM include gender, age, meeting Grade 1 letter-sound benchmark after first school year, no letters and no knowledge of starting sounds at start of school.

Figure 9: Grade 1 repetition effects on alphabetic knowledge levels and average annual word reading gains in 2nd school year (2016)



Source: EGRS I, own calculations. Note: CEM = coarsened exact matching, FE = Fixed Effect. 95% confidence interval shown. Individual controls include gender, age, can't sound a single letter at start of school, meets grade 1 letter-sound benchmark end of 1st school year.

Reading fluency gains in the 3rd and 4th year of school

Reading with meaning requires that various underlying skills coordinate, develop and integrate before children can successfully understand a reading text. Once children have mastered decoding in the first year or two of school (Chall, 1983), reading fluency can develop which in turn supports comprehension. Having considered repetition effects on decoding skills, I now look at how repetition in Foundation Phase grades impacts on reading development as measured by gains in oral reading fluency in home language.

The effects of repeating the 3rd or 4th year of school on home language fluency gains over the same period are estimated in Table 7. In models 1-5, repeaters in the 3rd or 4th year of school are compared to learners who don't repeat that year, controlling for Grade 1 repetition (2016). In addition to age and gender, baseline controls include whether a learner meets a Setswana fluency benchmark of 40 correct words per minute at the end of the 2nd school year and controls for the learners' alphabetic knowledge at the end of their 2nd school year.

Having conditioned on Grade 1 repetition, controlling for baseline reading levels or including school fixed effects does little to reduce the negative coefficient on 3rd or 4th year repetition from models 2 (-3.89) to model 4 (-4.63). In model 5, which slightly improves balance by estimating effects using a CEM weighted sample (matching 54% of the sample in model 4), 3rd or 4th year repeaters continue to exhibit lower fluency gains in those years compared with non-repeating peers with a coefficient of -5.8.

In model 6 and 7, repeaters in the 3rd or 4th year of school are compared to learners who don't repeat in that year but rather repeat in Grade 1. Individual controls and school fixed

effects are included in model 6, and model 7 additionally restricts the sample to a CEM weighted sample. In both model 6 and 7, the coefficient on “Repeats in 2017 or 2018” is negative and weakly significant implying that students who repeat in the 3rd or 4th school year have flatter reading fluency trajectories than students who repeated earlier in Grade 1, reading 3 fewer words on average per year.

Taken together the results across models 4 to 6 are indicative of slightly lower fluency gains among learners who repeat in their 3rd or 4th year of school compared to those that do not repeat those years. Relative to repeating in the 3rd or 4th school year, the coefficient on Grade 1 repetition in models 2-5 is also negative but smaller in magnitude and typically insignificant, implying that repetition in later primary grades may be more harmful than repeating Grade 1. These effect sizes are summarised in Figure 10.

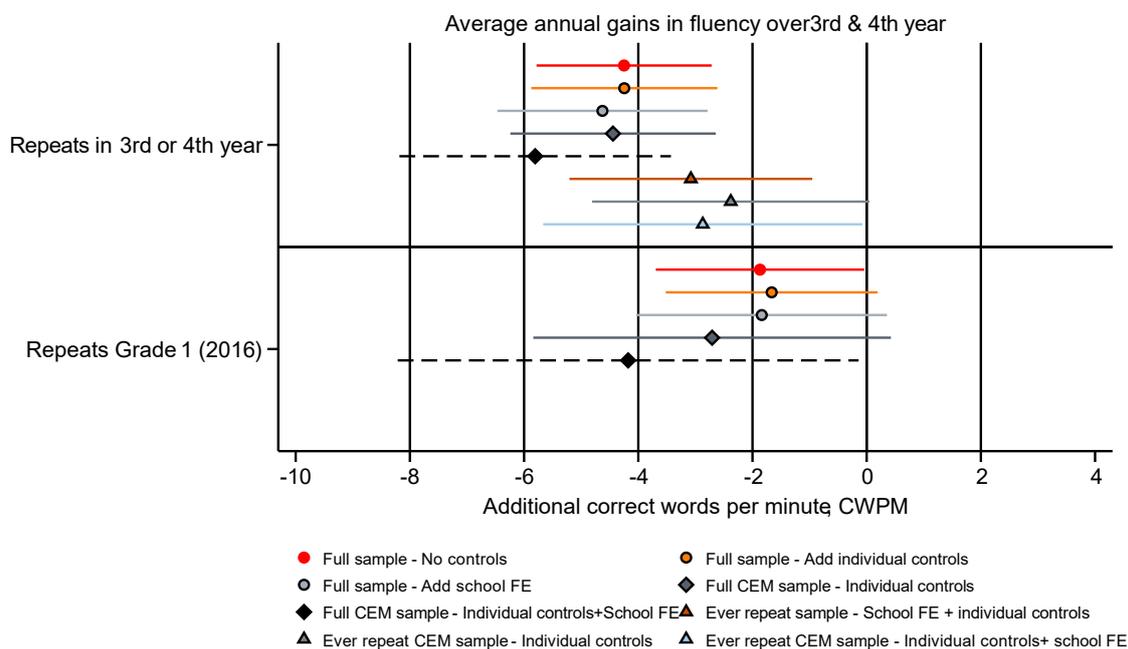
It is noted that the coefficient on meeting a Grade 2 fluency benchmark at the end of the 2nd school year is negative and significant. The reason for this is that there are diminishing gains to fluency once certain fluency thresholds are reached. If year 3 or 4 fluency *levels* rather than gains are used, a positive association is observed with reaching a Grade 2 fluency benchmark after 2 years of schooling.

Table 7: Average annual gains in reading fluency over the 3rd and 4th year of school (wave 3-4), EGRS I

Gains in correct words per minute (CWPM)	Sample: End of Grade 1 progressed learners and Grade 1 repeaters (2016)					Repeater sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Repeats in 2017 or 2018 (3rd or 4th year)	-4.25***	-3.89***	-4.25***	-4.63***	-5.81***	-3.08**	-2.87*
Repeated Grade 1 (2016)	-1.87*	-1.39	-1.66	-1.84	-4.18*		
Female		3.57***	3.85***	3.81***	3.52**	3.89**	2.52
Age		-0.48	-0.44	-0.29	-2.17**	-1.03	-1.45
Meets Setswana Grade 2 fluency benchmark (end of 2nd year)			-3.70***	-4.80***	-8.78***	-13.66***	-9.11**
Correct letters sounded per minute end of 2nd year			0.07***	0.10***	0.18**	0.20***	0.40***
Constant	13.78***	16.94***	16.30***	14.49***	33.82***	19.95*	23.34
Adjusted R-squared	0.019	0.041	0.057	0.119	0.186	0.201	0.199
N (learners)	2224	2224	2224	2224	1200	615	520
N (schools)	221	221	221	221	213	172	169
School fixed effect				X	X	X	X
CEM sample					X		
CEM repeater sample							X

Data source: EGRS 1, wave 1-4. Robust standard errors clustered at school level. Gains are adjusted to reflect gains over a year, adjusted for time passed between assessments. Controls for probability weights for attriting out of estimation sample. Significant at *10% level, **5% level, ***1% level. In the repeater sample only learners that repeat either Grade 1, or 2 or 3 are included. CEM matching variables include gender, age, meets Grade 2 Setswana fluency benchmark after 2nd school year, letter-sound knowledge at the end of 1st school year and no knowledge of starting sounds at start of school.

Figure 10: Repetition effects on average annual gains in reading fluency over the 3rd and 4th year of school (wave 3-4), EGRS I



Source: EGRS I, own calculations Note: CEM = coarsened exact matching FE = Fixed Effect. 95% confidence interval shown Individual controls include genderage, letter sounds end of 1st school year, reaches Grade 2 Setswana fluency benchmark end of 2nd year

ESTIMATION RESULTS: SAME-GRADE

End of Grade 1 decoding skills: Alphabetic and isolated word reading

A different perspective on early grade repetition effects emerges using a same-grade comparison approach to estimating Grade 1 repetition effects on alphabetic knowledge and word reading levels.

In Table 8, models 1-5, end of Grade 1 alphabetic knowledge or word reading levels of progressed learners (i.e. end of 2015) are compared to the reading levels of Grade 1 repeaters after they have repeated Grade 1 (i.e. end of 2016). The patterns that emerge in estimating alphabetic knowledge or word reading levels are quite similar.

In estimating both alphabetic knowledge (top panel) or word reading levels (bottom panel), negative selection into repetition related to gender and weaker reading skills at the start of school account for the negative coefficient on Grade 1 repeater (model 3). Unobserved omitted school characteristics positively bias the coefficient on Grade 1 repeater (model 4). Improving sample balance in model 5 through using a CEM weighted sample suggests that after a year of repetition in Grade 1, alphabetic knowledge is still lower for repeaters than students progressed to Grade 2 (by 3 fewer correct letters-sounded per minute) while word reading is lower by 1 word (but not significantly so).

Table 8: Estimation of Grade 1 repetition on end of Grade 1 reading outcomes (alphabetic knowledge and word reading levels), EGRS I

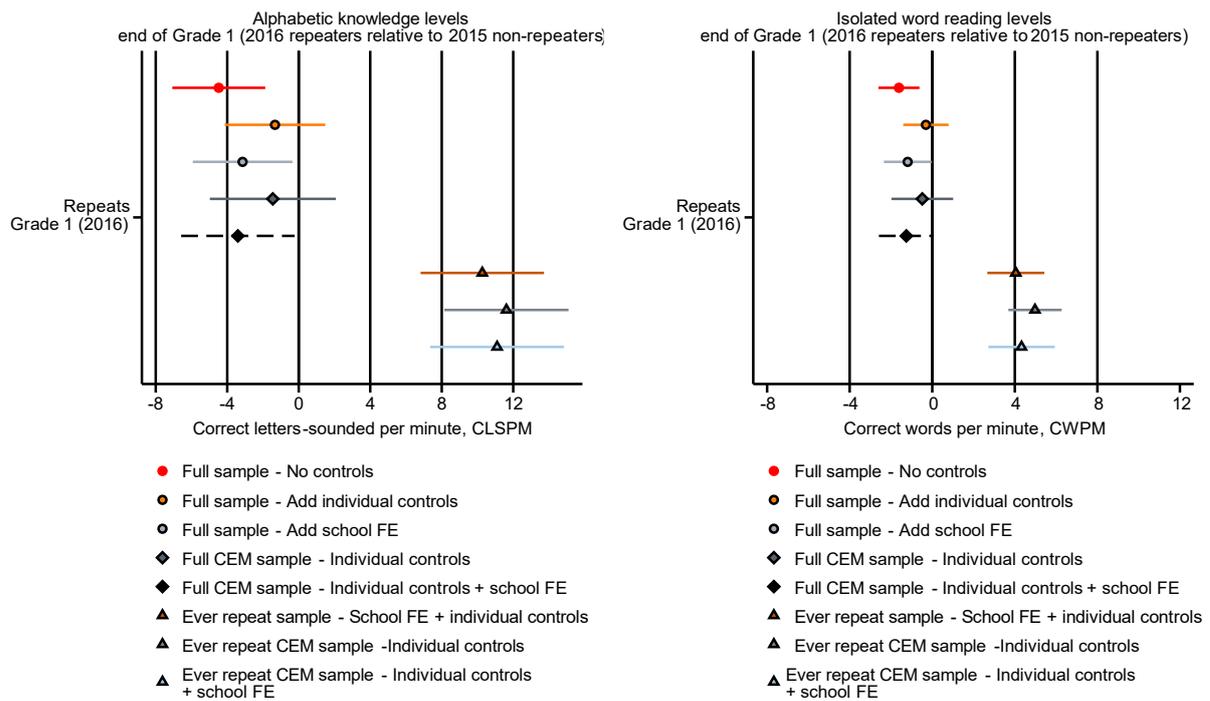
Alphabetic knowledge end of Grade 1: CLSPM (levels)	Sample: Grade 1s (end of 2016) vs Grade 1s (end of 2015)					Repeater sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Grade 1 repeater	-4.47***	-3.77**	-1.33	-3.14*	-3.40*	10.27***	11.10***
Female		5.98***	5.69***	6.22***	5.49***	6.19***	6.12***
Age		-0.05	-0.29	-0.43	-1.56	-0.11	-1.12
Can't correctly sound any letter (start of Grade 1 2015)			-11.41***	-8.95***	-9.47***	-6.47***	-6.61***
Constant	25.93***	23.60***	29.87***	29.89***	39.03***	13.18	20.66*
Adjusted R2	0.005	0.023	0.087	0.339	0.367	0.386	0.397
N (learners)	3280	3280	3280	3280	2996	928	894
N (schools)	230	230	230	230	230	215	215
School fixed effect				X	X	X	X
CEM sample					X		
CEM repeater sample						X	X
Isolated word reading end of Grade 1: CWPM (levels)	Sample: Grade 1s (end of 2016) vs Grade 1s (end of 2015)					Repeater sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Grade 1 repeater	-1.61**	-1.28*	-0.31	-1.19*	-1.26	4.05***	4.33***
Female		2.36***	2.24***	2.57***	2.05***	1.13	1.13
Age		-0.09	-0.18	-0.06	-0.24	-0.06	-0.57
Can't correctly sound any letter (start of Grade 1 2015)			-4.53***	-3.38***	-3.57***	-1.65**	-1.72*
Constant	8.00***	7.56**	10.07***	8.63***	10.26**	3.19	7.02*
Adjusted R2	0.003	0.015	0.060	0.227	0.240	0.220	0.233
N (learners)	3275	3275	3275	3275	2991	928	894
N (schools)	230	230	230	230	230	215	215
School fixed effect				X	X	X	X
CEM sample					X		
CEM repeater sample						X	X

Data source: EGRS 1, wave 1-3. Restricted sample - letter sounds at start of school not missing. Robust standard errors clustered at school level. Significant at *10% level, **5% level, ***1% level. In the repeater sample only learners that repeat either Grade 1, or 2 or 3 are included. CEM using the following matching variables: female, age, zero letter sound score and zero knowledge of starting sounds (phonemic awareness) at start of Grade 1.

However, limiting the counterfactual sample to learners who repeat later in Grade 2 or 3 but not in Grade 1 in model 6 provides a markedly different result. After repeating Grade 1, students' alphabetic knowledge and word reading levels *exceeded* the end of Grade 1 reading levels of those initially progressed to Grade 2 but that repeat in the next year or two by as much as 11 correct letters sounded per minute or 4 correct words per minute. Not shown here is that similar results are obtained if oral reading fluency levels are used rather than isolated word reading.

This implies that Grade 1 repetition may significantly support catch-up in decoding skills but may also reflect that those that are repeated later (3rd or 4th year) are a weaker ability sample than those repeated earlier if unobserved ability is not effectively controlled for in the regression.

Figure 11: Same-grade comparisons, end of Grade 1 reading levels (alphabetic knowledge and word reading), EGRS I



Source: EGRS I, own calculations. Note: CEM = coarsened exact matching, FE = Fixed Effect. 95% confidence interval shown. Individual controls include gender, age, can't sound a single letter at start of school.

MISTARGETTED REPETITION

Although early grade repetition decisions in South Africa generally target weaker students in the early grades, it's important to consider the extent to which errors or mistakes might lead to students being held back despite their academic performance suggesting otherwise. To gain a better understanding of this, the progression patterns for Grades 1-4 are analysed in relation to whether students have achieved the minimum reading benchmarks for their grade in either their home language or English First Additional Language. This analysis is presented in Table 9 and 10, depicting the percentage of students who meet these reading benchmarks after 1, 2, or 3 years of schooling, categorised based on whether they were repeated or allowed to progress to the next

grade. It's worth noting that the reading assessment occurs just prior to the end-of-year progression evaluations.

The percentage of EGRS I Grade 1s meeting an end of Grade 1 letter-sound benchmark is shown in Panel A in Table 9. Panel B then shows the percentage of EGRS I students at the end of the 2nd school year that meet a Setswana Grade 2 fluency benchmark. Percentages of EGRS II students at the end of the 2nd year of school meeting Grade 2 Nguni and English First Additional Language fluency benchmarks is then shown in Table 10, Panel A. Moving to panel B of Table 10, reveals the corresponding percentage of EGRS II students who following three schooling years, meet the fluency benchmarks for Grade 3 in Nguni and English First Additional Language.

Despite a much higher likelihood of students meeting minimum grade-specific reading standards if they are to be promoted, there remains an occurrence of misplaced repetition. Within these sample sets, a range of 2-7% of students who are retained should, in fact, have been advanced due to their attainment of grade-specific literacy goals. The discrepancy in repeating these students, despite their achievement of reading benchmarks, becomes evident when considering that a significant proportion (ranging from 55% to 72%) of those who are promoted are not meeting the grade-specific reading standards upon completing a Foundation Phase grade (see Table 10).

Table 9: Percentage of learners meeting reading benchmarks by their end of grade progression decision, EGRS I in North West Province

Progression decision end of Grade 1			
A: Meets Setswana Grade 1 letter-sound benchmark (40+ CLSPM) at end of Grade 1 (2015)	Progresses to Grade 2	Repeats Grade 1: Not-progressed to Grade 2	Total
No	2 145 72.03%	517 96.28%	2 662 75.73%
Yes	833 27.97%	20 3.72%	853 24.27%
Total	2 978 100%	537 100%	3 515 100%

Source: EGRS I, wave 2 (2015) & wave 3 (2016), own calculations.

Progression decision after 2nd school year			
B: Meets Setswana Grade 2 oral reading fluency benchmark (40 CWPM) at end of 2nd school year (2016)	Progresses end of 2016 & 2017	Repeats end of 2016 or 2017	Total
No	13 34 56.0%	469 94.9%	1 803 62.7%
Yes	1 048 44.0%	25 5.1%	1073 37.3%
Total	2 382 100%	494 100%	2 876 100%

Source: EGRS I, wave 3 (2016) & wave 4 (2018), own calculations.

It is important to acknowledge that the decision-making process for student progression may not solely rely on the acquisition of literacy skills. Factors such as numeracy skills and socio-emotional development could also play a role in shaping these decisions. Nonetheless, insights from the Western Cape region indicate that understanding learners' mathematics proficiency levels does not necessarily account for certain errors in progression decisions.

Table 10: Percentage of learners meeting reading benchmarks by their end of grade progression status, EGRS II in Mpumalanga province

Progression decision after 2nd school year			
C: Meets Nguni and/or EFAL Grade 2 benchmarks	Progressed from Grade 2 to 3	Repeats: Not progressed from Grade 2 to 3	Total
No benchmark met	1238 55.49%	191 92.27%	1,429 58.61%
Meets Nguni language Grade 2 benchmark (20 cwpm) only	321 14.39%	6 2.90%	327 13.41%
Meets EFAL Grade 2 benchmark (30 cwpm) only	61 2.73%	6 2.90%	67 2.75%
Meets both Nguni and EFAL Grade 2 benchmarks	611 27.39%	4 1.93%	615 25.23%
Total	2231 100%	207 100%	2438 100%

Source: EGRS II, wave 3-4, own calculations. Balanced panel from wave 3-5 only. Note: EFAL = English First Additional Language.

Progression decision after 3rd school year			
D: Meets Nguni and/or EFAL Grade 3 benchmarks	Progresses from Grade 3 to 4	Repeats: Not progressed from Grade 3 to 4	Total
No benchmark met	1410 65.13%	134 95.71%	1544 66.98%
Meets Nguni language Grade 3 benchmark (35 cwpm) only	176 8.13%	2 1.43%	178 7.72%
Meets EFAL Grade 3 benchmark (50 cwpm) only	126 5.82%	1 0.71%	127 5.51%
Meets both Nguni and EFAL Grade 3 benchmarks	453 20.92%	3 2.14%	456 19.78%
Total	2165 100%	140 100%	2305 100%

Source: EGRS II, wave 4-5, own calculations. Balanced panel from wave 3-5. Note: EFAL = English First Additional Language. Very similar percentages are obtained if the balanced panel from wave 1, 3, 4 & 5 is used excluding any irregular grade movements across waves.

Selkirk (forthcoming) examines this issue, drawing on data from a longitudinal study following a balanced panel of learners over a 9-year span (2011-2019) in the Western Cape province's Centralised Education Management Information System (CEMIS). Her findings reveal that 2% of Grade 3 students attending Quintile 1-4 schools who were held

back at the end of the academic year, had achieved a 50% proficiency benchmark in mathematics and language in the Western Cape Systemic Tests. In contrast, only 21% of Grade 3s who were promoted to the next grade reached the 50% benchmark level in both in mathematics and language. In more affluent and well-functioning Quintile 5 schools, up to 5% of Grade 3 repeaters had met the 50% benchmark in mathematics and language. With higher levels of academic performance in Quintile 5 schools however, 56% of Grade 3 students progressed to the next grade had met the 50% benchmark in both mathematics and language.

Applying uniform academic standards across schools, the issue of missclassification of repeaters appears to be more prevalent in Quintile 5 schools than Quintile 1-4 schools in her balanced panel. Mistargetted repetition persist despite having knowledge of students' proficiency levels in language and mathematics.

DISCUSSION

The paper's primary aim was to enhance our understanding of the value and costs of early grade repetition trends in South Africa and to examine the accuracy of progression and repetition determinations within the Foundation Phase (grades 1-3). In this discussion I summarise the key insights emerging in response to three sub-research questions guiding this inquiry:

1. Are there potential benefits of early grade repetition for early grade reading?
2. To what degree do variations in academic performance exist between students who will progress and those who will be retained, prior to progression decisions?
3. To what degree are progression decisions mistargetted in relation to a student's level of academic proficiency?

A dual approach was employed to assess the effects of early grade repetition, involving same-age and same-grade comparisons. Consistent with findings from global research, the same-age estimations show smaller (or more negative) effect sizes compared to the same-grade results. According to same-age estimations, Grade 1 repetition appears to have a negative short-run effect on alphabetic knowledge levels. Repeating students sound 10-13 fewer correct letters per minute and read almost 7 fewer additional words during their second year of school. As a best-case scenario, Grade 1 repeaters catch up to their progressed peers in alphabetic knowledge levels and their word reading developmental profiles remain similar. Same-grade results, however, suggest Grade 1 repeaters could potentially surpass the reading levels of those (assessed a year earlier) who advanced to Grade 2 without repeating, by as much as 11 correct letters sounded per minute or 4 correct words per minute. Grade 1 repetition might facilitate a recovery in foundational decoding skills, thus contributing to overall reading development. Further research is needed though to examine the longer-term effects of being held back in the early grades, and particularly Grade 1.

Repetition in later grades is expected to yield diminishing effectiveness. When considering the effects of repetition in the 3rd or 4th year through a same-age comparison, repeaters experience slightly reduced gains in fluency compared to their non-repeating counterparts. This analysis also suggests that repeating in years 3 to 4 of school may be more harmful than repeating Grade 1. This conclusion aligns with findings in international studies (Valbuena et al., 2021).

This study also clearly demonstrates that students who are repeated during the Foundation Phase exhibit weaker initial reading skills compared to their progressed peers. This finding challenges the notion that repetition is arbitrary or akin to a "lottery" (Lam, Ardington & Leibbrandt, 2011). On average, students who will be repeated in grades 1-3 commence their schooling with comparatively lower levels of phonological awareness and little to no alphabetic literacy. Furthermore, my research shows that students meeting minimum grade-specific reading standards are far less likely to be subject to repetition. Nevertheless, instances of misplaced repetition still occur. Between 2-7% of repeated students should have been promoted to the next grade due to their attainment of minimum grade-specific literacy standards. Conversely, a substantial percentage – ranging from a half to majority – of promoted students were not meeting these standards. Mistargeted repetition at the end of Grade 3 occurs even when considering student's proficiency levels in language and mathematics and this even happens in higher functioning Quintile 5 schools (Selkirk, n.d.). These findings highlight the need for uniform assessment standards and testing to better guide repetition decisions at the school level.

In the absence of alternative remediation methods, the ongoing decrease in Grade 1 repetition rates (as observed pre-pandemic and during the pandemic) could constrain available opportunities for students to catch-up in foundational reading skills. This finding underscores the need to introduce early grade remediation programmes in low-literacy contexts, necessitating a commitment of provincial budgets to support these interventions. The substantial savings resulting from reduced repetition could be reallocated to facilitate the development and implementation of early grade remediation programmes. Furthermore, it is important to focus on enhancing the quality of Grade R instruction, ensuring students enter Grade 1 equipped with a strong foundation in oral language and improved alphabetic awareness.

REFERENCES

- Ardington, C., Wills, G. & Kotze, J. 2021. COVID-19 learning losses: Early grade reading in South Africa. *International Journal of Educational Development*. 86:102480. DOI: 10.1016/j.ijedudev.2021.102480.
- Ardington, C., Wills, G., Pretorius, E., Mohohlwane, N. & Menendez, A. 2021. Benchmarking oral reading fluency in the early grades in Nguni languages. *International Journal of Educational Development*. 84:102433. DOI: 10.1016/j.ijedudev.2021.102433.
- Betthäuser, B.A., Bach-Mortensen, A.M. & Engzell, P. 2023. A systematic review and meta-analysis of the evidence on learning during the COVID-19 pandemic. *Nature Human Behaviour*. 7(3):375–385. DOI: 10.1038/s41562-022-01506-4.
- Branson, N., Hofmeyr, C. & Lam, D. 2014. Progress through school and the determinants of school dropout in South Africa. *Development Southern Africa*, 31(1):106-126. DOI: 10.1080/0376835X.2013.853610
- Chall, J.S. 1983. *Stages of Reading Development*. New York, NY: McGraw Hill.
- Crouch, L., King, K., Olefir, A., Saeki, H. & Savrimootoo, T. 2020. Taking Preprimary Programs to Scale in Developing Countries: Multi-source Evidence to Improve Primary School Completion Rates. *International Journal of Early Childhood*. 52(2):159–174. DOI: 10.1007/s13158-020-00271-7.
- Crouch, L., Olefir, A., Saeki, H. & Savrimootoo, T. 2022. Déjà vu all over again? Recent evidence on early childhood and early grade repetition in developing countries. *PROSPECTS*. 52(1-2):41–58. DOI: 10.1007/s11125-020-09473-2.
- Department of Basic Education (DBE). 2012. National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12, published as Government Notices No. 1115 and 1116 in Government Gazette No. 36042. Pretoria: DBE.
- Department of Basic Education (DBE). 2016. *Report on progress in the schooling sector against key learner performance and attainment indicators*. Report prepared by Gustafsson, M. Pretoria: DBE
- Department of Education (DoE). 1998. National Policy Pertaining to the Conduct, Administration and Management of the National Senior Certificate Examination, published as Government Notice NO. 574 in Government Gazette No. 30048 of July 2007. Pretoria, South Africa: DoE.
- Double, K., McGrance, J., Stiff, J. & Hopfenbeck, T.N. The Importance of Early Phonics Improvement for Predicting Later Reading Comprehension. *British Educational Research Journal* 45(1). DOI: 10.1002/berj.3559
- Diris, R. 2017. Don't Hold Back? The Effect of Grade Retention on Student Achievement. *Education Finance and Policy*. 12(3):312–341. DOI: 10.1162/EDFP_a_00203.
- Eisemon, T.O. 1997. *Reducing repetition: Issues and strategies*. Paris.
- Fruehwirth, J.C., Navarro, S. & Takahashi, Y. 2016. How the Timing of Grade Retention Affects Outcomes: Identification and Estimation of Time-Varying Treatment Effects. *Journal of Labor Economics*. 34(4):979–1021. DOI: 10.1086/686262.
- Goos, M., Van Damme, J., Onghena, P., Petry, K. & de Bilde, J. 2013. First-grade retention in the Flemish educational context: Effects on children's academic growth, psychosocial growth, and

school career throughout primary education. *Journal of School Psychology*. 51(3):323–347. DOI: 10.1016/j.jsp.2013.03.002.

Gustafsson, M. 2022. *Grade promotion, repetition and dropping out 2018 to 2021*. Pretoria: Department of Basic Education.

Hoadley, U. 2023. *COVID-19 and the South African curriculum policy response. Research note for the Covid-Generation project*. Stellenbosch: Research on Socio-Economic Policy.

Jimerson, S. & Ferguson, P. 2007. A longitudinal study of grade retention: Academic and behavioral outcomes of retained students through adolescence. *School Psychology Quarterly*. 22(3):314–339.

Kotze, J., Fleisch, B. & Taylor, S. 2018. Alternative forms of early grade instructional coaching: Emerging evidence from field experiments in South Africa. *International Journal of Educational Development*. DOI: 10.1016/j.ijedudev.2018.09.004.

Lam, D., Ardington, C. & Leibbrandt, M. 2011. Schooling as a Lottery: Differences in School Advancement in Urban South Africa. *Journal of Development Economics*. 95(2):121–136. DOI: 10.1016/j.jdeveco.2010.05.005.

Mohohlwane, N., Taylor, S., Cilliers, J. & Fleisch, B. 2023. Reading Skills Transfer Best from Home Language to a Second Language: Policy Lessons from Two Field Experiments in South Africa. (Working Paper, 647 (June 2023)), Washington D.C.: Center for Global Development.

Moscoviz, L. & Evans, D.K. 2022. *Learning loss and student dropouts during the COVID-19 pandemic: A review of the evidence two years after schools shut down*. (Working Paper, 609). Washington D.C.: Center for Global Development.

OECD. 2011. *When students repeat grades or are transferred out of school: What does it mean to education systems? PISA in Focus, 2011/6*. Paris.

Schady, N., Holla, A., Sabarwal, S., Silva, J. & Yi, Chang, A. 2023. *Collapse and Recovery: How the COVID-19 Pandemic Eroded Human Capital and What to Do about It*. Washington, D.C: World Bank Group.

Spaull, N. & Kotze, J. 2015. Starting behind and staying behind in South Africa. *International Journal of Educational Development*. 41:13–24. DOI: 10.1016/j.ijedudev.2015.01.002.

Selkirk, R. forthcoming. Mistargeted repetition in the Western Cape. Stellenbosch University.

Taylor, S., Cilliers, J., Prinsloo, C., Fleisch, B. & Reddy, V.. 2017. *The Early Grade Reading Study: Impact evaluation after two years of interventions. Technical Report. Unpublished*. Pretoria.

Valbuena, J., Mediavilla, M., Choi, Á. & Gil, M. 2021. Effects of grade retention policies: A literature review of empirical studies applying causal inference. *Journal of Economic Surveys*. 35(2):408–451. DOI: 10.1111/joes.12406.

Van der Berg, S., Gustafsson, M. & Burger, C. 2020. *School Teacher Supply and Demand in South Africa in 2019 and Beyond*. Pretoria: Department of Higher Education and Training.

Van der Berg, S. & Shepherd, D. 2015. Continuous assessment and matriculation examination marks - an empirical examination. *South African Journal of Childhood Education*. 5(2):78–94.

Van der Berg, S., Wills, G., Selkirk, R., Adams, C. & Van Wyk, C. 2019. *The Cost of Repetition in South Africa*. Stellenbosch. Available: <https://learningportal.iiep.unesco.org/en/library/the-cost-of-repetition-in-south-africa>.

Van der Berg, S., Van Wyk, C., Selkirk, R., Meyer, H., Hofmeyr, H., Moses, E. & Gondwe, J. 2022. *Educational Issues and the Impact of Covid-19. What education data reveal*. Stellenbosch: Research on Socio-Economic Policy.

Weatherholt, T., Jordan, R., Crouch, L., Barnett, E. & Pressley, J. 2019. Challenge and Drivers of Over-enrolment in the Early Years of Primary School in Uganda. *International Journal of Early Childhood*. 51(1):23–40. DOI: 10.1007/s13158-019-00238-3.

Wills, G. 2023. *South African teacher shortages as revealed through class sizes and learner-educator ratios*. Working paper for the Teacher Demographic Dividend Project. Stellenbosch: Research on Socio-Economic Policy.

Wills, G. & Van der Berg, S. 2022. *Covid-19 disruptions and education in South Africa*. Stellenbosch: Research on Socio-Economic Policy.

Wills, G., Ardington, C. & Sebaeng, L. 2022. Foundational skills in home language reading in South Africa: Evidence from 2015-2021 (Chapter 3). In *Early Grade Reading in South Africa*. N. Spaul & E. Pretorius, Eds. Cape Town: Oxford University Press.

Wills, G., Ardington, C., Pretorius, E., Pooe, E. & Ramagoshi, R. 2022. *Benchmarking Early Grade Reading Skills: Setswana and English First Additional Language. Technical Report*. Johannesburg: Khulisa Management Services.

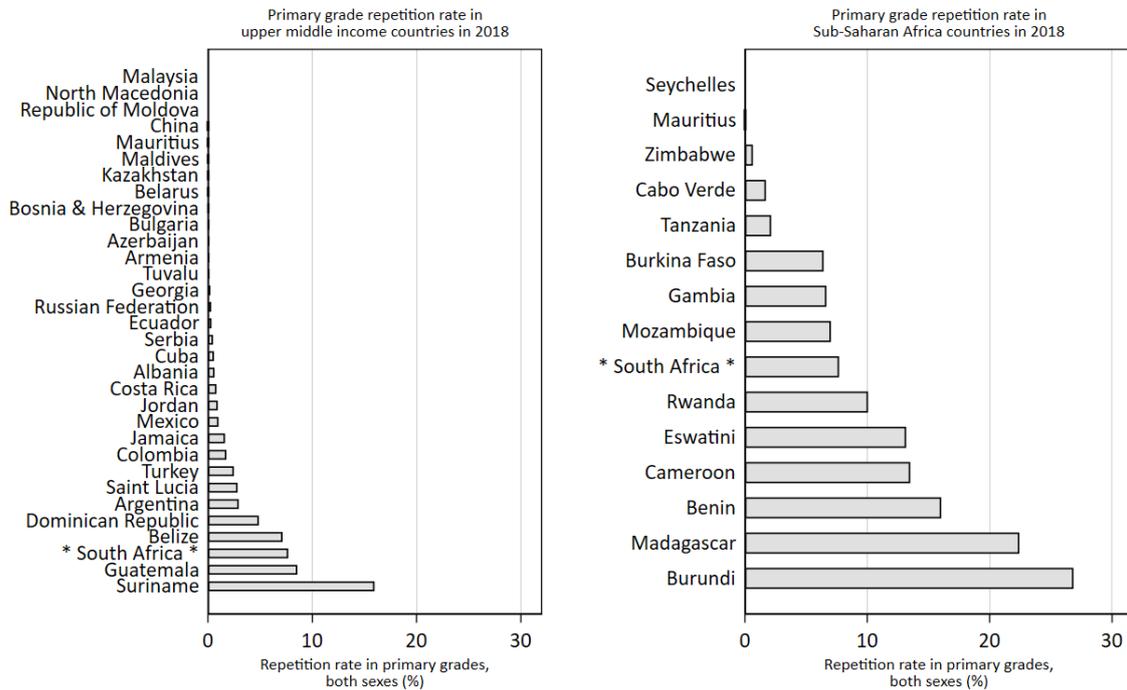
APPENDIX

Table A 1: Comparable tasks assessed in waves 1-5 in EGRS I and II

EGRS I	Letter-sound Knowledge in home language	Oral reading fluency (passage reading) in home language	Isolated word reading in home language	
Measurement unit	Correct letter-sounds per minute (CLSPM)	Correct words per minute (CWPM)	CWPM	
W1 (Grade 1 Term 1 2015)	Untimed			
W2 (Grade 1 Term 4 2015)	110 letter-sounds	Setswana Story A (Max 62 words)	Max 50 words	
W3 (Grade 2* Term 4 2016)	110 letter-sounds	Setswana Story A (Max 66 words)	Max 50 words	
W4 (Grade 4* Term 3 2018)	110 letter-sounds (including complex consonants)	Setswana Story B (Max 159 words)	Max 70 words	
W5 (Grade 7* Term 3 2021)		Setswana story C (Max 261 words)		
EGRS II	Letter-sound Knowledge in home language	Oral reading fluency (passage reading) in home language	Isolated word reading in English	Oral reading fluency (passage reading) in English
Measurement unit	CLPSM	CWPM	CWPM	CWPM
W1 (Grade 1, Term 1 2017)	Untimed			
W2 (Grade 1, Term 4, 2017)				
W3 (Grade 2*, Term 4 2018)	110 letter-sounds (including complex consonants)	Nguni Language Story A (Max 60 words)		English Story A (Max 70 words)
W4 (Grade 3*, Term 4 2019)	110 letter-sounds (including complex consonants)	Nguni Language Story A (Max 58 words)	Max 104 words	English Story B (Max 126 Words)
W5 (Grade 4*, Term 4 2020)		Nguni Language Story A (Max 62 words)	Max 112 words	English Story B (Max 126 words)

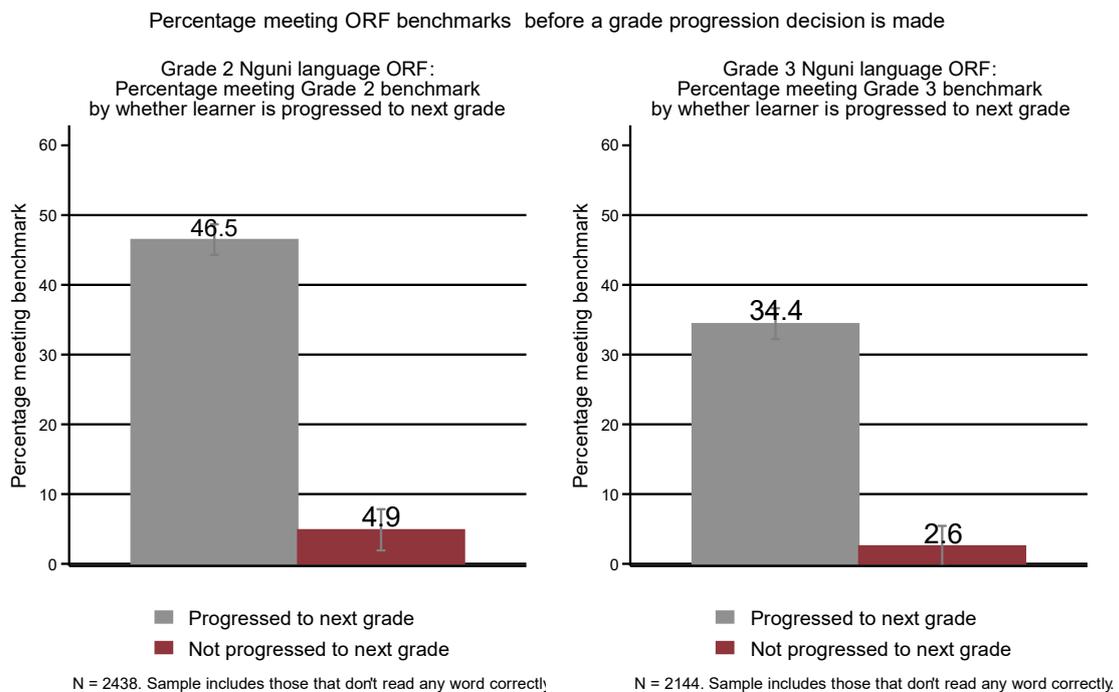
Notes: The wave 1 Grade 1 assessment tasks were not timed in EGRS I.

Figure A 1: Primary grade repetition rates in upper middle income and Sub-Saharan African countries, UIS Statistics 2018



Source: Repetition rates from UIS Statistics, income and region classifications from World Bank (2023), own graph

Figure A 2: Percentage meeting fluency (oral reading fluency) benchmarks before a grade progression decision is made, EGRS II



Source: EGRS II, wave 2-3, own calculations

Contact Information

Email:

carinebrunsdon@sun.ac.za

Phone:

(+27) 21 808 2024

Website:

www.resep.sun.ac.za

Address:

Research on Socio-Economic
Policy (RESEP)

Department of Economics

Matieland

7602



Stellenbosch
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT

forward together
sonke siya phambili
saam vorentoe

