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Working Paper No.

04/26

APRIL 2026

This paper was produced as part of the MILAPS project, funded by Optima.

Repetition, Progression, and Achievement in the Western Cape: Evidence from a Longitudinal Cohort Analysis

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OPTIMA

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April 2026[1]

Abstract

This paper investigates how well repetition decisions align with academic achievement and how repetition affects learners' future progression and academic achievement in the Western Cape. As the longest longitudinal study of its kind in South Africa, a balanced panel of learners is followed from Grade 3 in 2011 up until 2019 using the Western Cape's Centralised Educational Management Information System (CEMIS) data. The province's systemic testing data is used to provide mathematics and language achievement for these learners in Grades 3, 6, and 9. At Grade 3 level, a strong, albeit imperfect, association between achievement and repetition status is found, despite promotion decisions not being based on systemic test scores. This contributes encouraging evidence that schools' internal assessments and promotion decisions generally succeed in identifying academically weaker learners, and that repetition is not a 'lottery' as suggested by early repetition research. The Ordinary Least Squares (OLS) analysis in this paper is not causal, but nevertheless suggests the timing of repetition matters, with earlier repetition being less harmful (or more beneficial) than repetition in later grades. It is shown that Grade 3 repeaters improve their marks in the year of repetition, however repeaters are still found to lag academically behind their non-repeating peers in higher grades, despite the additional time spent in school. Overall, no convincing positive effects of repetition are found in the medium- to long-term. This study's findings corroborate those of recent research on South Africa's grade repetition, and highlight that repetition (particularly in the higher grades in South Africa) deserves greater scrutiny—but that there exist significant data challenges which impede causal research on this topic and limit the scope for policy recommendations.

Keywords: Grade repetition; Western Cape; South Africa; Longitudinal analysis

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[1] This working paper is adapted from a chapter of the same name which appears in the author's doctoral dissertation (Selkirk, 2025). The author would like to thank the colleagues and examiners who provided feedback on earlier versions of this work and, in particular, Prof Servaas van der Berg and Dr Gabrielle Wills for their supervision and guidance on the entirety of this research.

1. Introduction

Until recently, relatively little investigation had been done into repetition in South Africa. This was largely the result of a dearth of appropriate data, as well as unreliable reporting of repetition statistics at a national level (DBE, 2006; Crouch, 2005; Simkins, 2013). Recent years have brought more appropriate data to light, but research has still been limited. Nevertheless, what has emerged from recent data is that repetition rates in South Africa are high and costly to both individuals and society, and that the effectiveness of repetition should be examined to determine if repetition produces enough benefits to justify its substantial costs.

The present study draws from a longitudinal dataset which is the longest of its kind in South Africa. The Western Cape's Central Education Management Information System (CEMIS) data allows for tracking learners across time, and the province's systemic test data provides standardized achievement data for all learners in Grades 3, 6 and 9. This study tracked the 2011 Grade 3 cohort of learners from 2011 to 2019 to investigate the following questions:

- How well do repetition decisions align with academic achievement?
- What is the effect of repetition on progression[2] and future academic achievement?

While the findings are non-causal in nature and specific to the Western Cape, the investigation of these questions using novel data is still a valuable contribution to South Africa's repetition literature.

The analysis does not find evidence to support previous findings that South Africa's grade repetition is a 'lottery' (Lam et al., 2011). However, similar to Wills (2023), it is found that there exists some overlap in achievement between repeaters and non-repeaters—likely exacerbated by the fact that there are so many poor performers in the unequal school system. It is also found that repetition does appear to improve learners' performance in the year of repetition, although there is no way of knowing if this exceeds the gains that would have been made if learners had been promoted instead.

Longitudinal regression analysis was used to investigate how learners' achievement and progression are impacted by grade repetition. The findings suggest that the timing of repetition matters in the South African school system—with early repetition being more beneficial (or less harmful) than later repetition—but no convincing evidence was found to support the existence of any positive effects in the medium- to long-term. In fact, it is found that repeaters do not catch up to non-repeaters' academic achievement three to six years later, despite the additional year(s) spent in school.

Consistent with Wills (2023), it is also shown that controlling for prior achievement greatly reduces any estimated negative effects of repetition. This highlights the importance of including learners' prior academic achievement when investigating repetition, to avoid

[2] 'Progression' here refers to learners' repetition and promotion over the 2011 to 2019 period. Dropout, while important, has to be ignored in the current study because there are several reasons aside from dropout that learners may exit the CEMIS data (as will be discussed in Section 3.1). Learners who exited the data before 2019 were excluded from the balanced panel that was used for the analysis.

omitted variable bias—a limitation of much of South Africa's existing repetition research[3], but not a new finding internationally (Valbuena et al., 2021).

The remainder of this paper proceeds as follows: Section 2 provides an overview of local and international literature on grade repetition, Section 3 describes the data, methodology, and limitations of the present analysis, and then the descriptive findings and the results of the econometric analysis are presented in Section 4. The concluding section, Section 5, discusses the study's findings and provides recommendations for future research.

2. Literature

2.1 The arguments for and against repetition

There is no overall consensus on whether grade repetition is beneficial or harmful to learners, with arguments having been made for both sides.

Proponents of grade repetition argue that repetition works as an incentive for learners to avoid poor performance, and that—when applied correctly—it can give learners the time necessary to mature and catch up to their peers through exposure to an additional year of teaching (Valbuena et al., 2021; Goos et al., 2021). Any negative effects from non-mastery of material would be felt most acutely in subjects where learning is cumulative, and such arguments for repetition are therefore perhaps more strongly justified in earlier grades, where the additional time can be used to master basic concepts.

In addition, repetition may reduce heterogeneity in class ability in higher grades, if learners who have not mastered basic material are disallowed from progressing to the next grade. More academically homogenous classes are seen to be beneficial, since classes with a wider spread of knowledge may require more skilled teaching and more time spent on topics than would otherwise be necessary, which may also result in difficulty covering the entire curriculum in higher grades (Schmidt & Prawat, 2006; Goos et al., 2021). A further argument in support of grade repetition is that it allows for better signalling in the labour market. This is because it enables potential employers to trust that a grade's material has been sufficiently mastered once a learner has progressed past that grade (Van der Berg et al., Table 1, 2019a:3).

Finally, from a psychosocial perspective, it has been theorised that repetition can have positive effects on both repeating and non-repeating learners. One aspect of this relates to the motivational (or 'threat') effect that repetition may play, whereby all learners are encouraged to work harder to avoid having to repeat the grade (Hill, 2014; Walton, 2018; Belot & Vandenberghe, 2014, Koppensteiner, 2014). The other theorised benefit pertains to the advantage repeaters may gain in their second year in the repeated grade, due to their higher age and increased familiarity with the material compared to their new non-repeating peers. Potential benefits range from improved self-confidence to higher

[3] This is not usually due to negligence or oversight on the part of the researchers, but rather due to data limitations.

academic engagement and school well-being (Goos et al., 2021; Fernandez-Alonso et al., 2025).

In arguing for automatic promotion policies, critics of repetition have highlighted a number of its potential negative effects or consequences. The potential negative outcomes are wide-reaching, ranging from national or school level effects, to impacts on individual learners. At a national level, repetition has implications for educational budgets, since repetition involves paying twice for a single year of schooling[4] (Hattie, 2008), which comes at a cost to the government in countries where education is free or subsidized. It has also been argued that repetition can lead to higher inequality in a country, since learners from disadvantaged groups or of lower socioeconomic status are more likely to repeat and either drop out of the school system or reach the labour market later than non-repeaters, thereby perpetuating existing societal inequalities (Greenburg & Winsler, 2023; Resende & Petterini, 2021; Van der Berg et al., 2019a; Kyereko et al., 2022; Xia & Kirby, 2008; Salza, 2022).

At a school level, more learners in a school (due to repetition) without an accompanying increase in teacher numbers will result in higher learner-educator ratios, which may lead to unmanageable class sizes (Benhenda & Grenet, 2015; Brophy, 2006). Although repetition with effective remediation can reduce classroom heterogeneity in terms of learner knowledge, repetition may still result in age heterogeneity[5] that can lead to behavioural issues and class disruptions (Van der Berg et al., 2019a; Hill, 2014; Walton, 2018). This may also result in negative spillover effects for classmates, which may be greater than the spillover effects caused by low-ability peers (Hill, 2014; Lavy et al, 2012).

Despite the proposed psychosocial benefits that repetition may theoretically bring, counter-arguments have been made that repeaters themselves may suffer from behavioural and other psychological issues (Mathys et al., 2017; Brophy, 2006; Dziurzynski & Duda, 2018). This is because learners who repeat have to deal with being separated from their peers and repeating subjects they've already passed (Valbuena et al., 2021). It is also theorised that the 'repeater' label may carry various meanings or stigmas that may be harmful to learners who repeat (Kyereko, et al., 2025). Such stigmas, such as being labelled as 'slow', may be more likely to exist in contexts where repetition is not common (Van Canagem et al., 2021), since repetition in high-repetition environments would be more 'normal', and thus less stigmatic. Repeaters may also experience lower peer quality and reduced educational investment, leading to poorer later academic or lifetime outcomes (Eren et al., 2022). It has also been suggested that repetition's 'threat' effects could instead result in negative psychological impacts among both repeaters and non-repeaters, due to the pressure and stress the threat of repetition may impose (Goos et al., 2021).

Another argument that is commonly put forward against repetition is that it may result in later school dropout (Tafreschi & Thiemann, 2016; Borghesan et al., 2022; Benhenda & Grenet, 2015; Rumberger & Lim, 2008)—particularly if repetition negatively impacts

[4] Although, if repetition causes additional repetition in future or later school dropout (Tafreschi & Thiemann, 2016; Borghesan et al., 2022; Benhenda & Grenet, 2015; Rumberger & Lim, 2008), it is unclear how many additional (or fewer) net years of education a single instance of repetition causes.
[5] This is because repetition will result in a wider range of ages within a classroom, particularly if learners are allowed to repeat grades multiple times.

repeaters' school achievement, but also through repeaters' higher age and their potentially lower educational wellbeing or academic engagement (Van der Berg et al., 2019b; Valbuena et al., 2021; Paul & Rashmi, 2021). Ultimately, the implication is that repeaters may experience worse labour market prospects in the long-term, due to lower school completion rates and/or fewer post-school education and training opportunities due to any compounding deficits in academic performance (Goos et al., 2021; Van der Berg at al., 2019b; Xia & Kirby, 2009; Moulin & Sari, 2025).

2.2 Evidence on the effects of repetition

With conflicting theoretical arguments as to whether repetition is beneficial or harmful, it is unsurprising that repetition research itself has also yielded mixed results. Meta-analyses or systematic reviews are useful for synthesising collective knowledge on grade repetition, and two such influential reviews were conducted in 2001 (Jimerson, 2001a) and 2021 (Valbuena et al., 2021)[6]. The second of these studies highlighted a large increase in the number of studies done on repetition between 2001 and 2021, identifying a total of 150 studies being conducted over the period (Valbuena et al., 2021). However, given that repetition data is not always readily available, nor available in a format that allows for rigorous econometric evaluation, only 42 of the studies employed methodologies which gave causal results—these 42 studies are the ones included in Valbuena et al.'s (2021) systemic review of the grade repetition literature. The authors' motivation for disregarding non-causal studies is that associations are not sufficient evidence to inform policy. This should be kept in mind when interpreting the results of the current paper, as well as for other literature that employs methods such as ordinary least squares (OLS) regressions.

A crude summary of Valbuena et al.'s (2021) findings would be that most causal studies find the effects of repetition to be negative, but that the alternative practice of automatic promotion also negatively affects learners. Given the large costs associated with repetition—which the authors deem to easily outweigh the positive benefits, if they exist at all—Valbuena et al.'s (2021) conclusion is that either alternatives to repetition must be considered, or other policies must be used in combination with grade repetition if countries want to improve the achievement of their low-performing learners. Another systemic review published in the same year, by Goos, et al. (2021), seems to concur with Valbuena et al.'s (2021) conclusions, calling for policy to move toward early identification of at-risk learners and to provide targeted intervention to at-risk learners—with additional attention and support given to learners in the year of repetition if grade repetition is ultimately deemed necessary. These recommendations were based on an average zero effect of repetition based on the research included in their review, as well as the heterogeneity in effects depending on the educational strategies employed by different countries (Goos et al., 2021).

[6] Other notable meta-analyses or systematic reviews include: Xia & Kirby, 2009; Allen et al., 2009; Goos et al., 2021; and Chapter 2 of Pipa et al.'s (2025) report on grade repetition in Europe.

The timing of repetition

The correct timing of repetition has been debated. Lorence (2014), proposes that repetition too early (Grades 1 or 2) may have detrimental effects, but that repetition too late is ineffective at improving academic achievement. In contrast, South African studies have suggested that Grade 1 repetition is more beneficial than later repetition (Wills, 2023; Clayton, 2025), and international literature (Valbuena et al., 2021) also tends to find that positive effects are more likely to be present in earlier grades—although positive effects often fade out in the medium- to long-term. In South Africa, many learners who drop out in secondary school are those who fail or are about to fail their grade, which illustrates an almost immediate negative effect of repetition in higher grades (Van der Berg et al., 2019a; Branson et al., 2013; Gustafsson, 2011). International studies have also found that the timing of repetition may influence the probability of dropout, as well as the impact of repetition on various learning and psychosocial outcomes (Giano et al., 2022; Fernandez-Alonso et al., 2025; Rodriguez-Rodriguez, 2022).

Effects on psychosocial factors

A positive effect of repetition that was highlighted in Goos et al.'s (2021) systematic review was the finding of improvements in psychosocial functioning among repeaters compared to their younger, non-repeating classmates, but this benefit only appeared in the short-term. This was also the finding of Pipa et al. (2024)'s study of Portuguese learners, where the only non-null result showed that retained learners had higher academic self-concept in the short-term. However, recent work by Fernandez-Alonso et al. (2025) found that among Spanish adolescents, repeaters' self-concept and grit declined significantly more over time compared to their non-repeating peers, and this has been found in other contexts too (Van Canagem et al., 2021; Gonzalez-Nuevo et al., 2023).

Other findings regarding psychosocial effects are mostly negative[7] for repeaters, with studies associating repetition with a lower sense of school belonging (Van Canagem et al., 2022; Pipa & Peixoto, 2022), lower self-esteem and perceived parental support (Mathys et al., 2017), higher likelihood of delinquent and aggressive behaviours and social withdrawal (Mathys et al., 2017), and higher risk of being subject to bullying or victimisation (Van Canagem et al., 2024a). Qualitative work by Kyereko et al. (2025) in Uganda showed that repeaters experienced marginalising effects due to stigma surrounding repetition, which led to diminished self-efficacy, higher social stigma, and weaker school connections unless mitigated through various parental, teacher, or school interventions. In the Spanish context, Sanchez (2025) found the negative connotations attached to the 'repeater' label may result in lower motivation that can persist even beyond repeaters' school careers.

Stigma surrounding repetition, as well as other psychosocial effects, are theorised to be affected by the prevalence of repetition in a repeater's environment (Van Canagem et al., 2021). Van Canagem and various co-authors have conducted a number of studies—using PISA data across 25 countries, or focusing solely on repetition in Belgium—to investigate whether high-repetition contexts can mitigate some of the negative psychosocial effects that repeaters may experience. The results are mixed (Van Canagem et al., 2022), and

[7] One exception is Hwang and Koedel (2025), which found no evidence of early repetition having adverse impacts on US third graders' attendance or disciplinary incidents, and this null effect persisted into middle school.

dependent on which psychosocial dimension is being examined, but the majority find that no mitigation is present (Van Canagem et al., 2021; Van Canagem et al., 2024a; Van Canagem et al., 2024b).

The effect of repetition on non-repeating learners has also received some attention in repetition research, where it has been found that negative spillover effects exist and differ from the peer effects caused by low-ability classmates (Hill, 2014; Lavy et al., 2012). These effects extend to dimensions such as the cognitive and metacognitive engagement levels and information processing abilities of repeaters' peers (Fourie & Schlebusch, 2021), as well as the base levels of other psychosocial factors (Van Canagem et al., 2021; Pipa & Peixoto, 2022). Another way in which even non-repeaters may be impacted by repetition is through its 'threat effects'. Koppensteiner (2014), found that the introduction of automatic promotion (i.e. removing the threat of repetition) in Brazil had significant negative effects on mathematics test scores, particularly among low performers (but not as much for extremely low performers), which would suggest that repetition's threat effects may result in higher academic outcomes for both repeaters and non-repeaters. However, Cabrera-Hernandez (2022) found that abolishing repetition for Mexican third-graders had no effect on academic performance, and a similar finding was the result of Belot and Vandenberghe's (2014) examination of a 2001 reform in Belgium.

Effects on academic outcomes

Quantitative evidence is mixed regarding repetition's effect on repeaters' academic achievement—for example, the 2001 meta-analysis stated that only around five percent of its 175 repetition studies found an improvement in repeaters' academic performance (Jimerson, 2001a). In more recent research, it has been found that repetition increases achievement in the year of repetition (Lopez-Agudo et al., 2024; Hwang & Koedel, 2025), but that repeaters may still fail to reach the appropriate level of achievement despite this improvement (Ahmad, 2021).

Even if repetition has initial positive effects on academic outcomes, it has been linked to lower academic achievement in later grades (Soler et al., 2021; Buckmaster et al., 2024; Diris, 2017; Gonzalez-Nuevo et al., 2023; Leon & Martinez-Abad, 2025), particularly for learners who repeat multiple times (Greenburg & Winsler, 2023). This in turn leads to a higher risk of repetition in later grades (particularly in high school), which is consistent with the findings of multiple studies (Ferrao, 2022; Serrao, 2021; Paul & Rashmi, 2021).

Effects on dropout, and post-school outcomes

School dropout features prominently in the literature as one of the negative consequences of repetition. Quantitative links between repetition and dropout (or lower school attainment) have been made in a number of international and developing-country studies (Roderick, 1994; Jimerson, 2001b; Jimerson, et al., 2002; Glick & Sahn, 2010; Andre, 2009; Manacorda, 2012; Giano et al., 2022; Moulin & Sari, 2025; Van Canagem et al., 2024b; Mariano et al., 2025; Larsen & Valent, 2024; Pipa et al., 2025), although this relationship may not exist for all grades (see, for example, Jacob and Legren (2009); Ter Meulen, 2023) and the causality is difficult to establish (Kabay, 2016).

Even if repetition doesn't lead to premature school dropout, it may still impact repeaters' labour market earnings due to their delayed entry into the labour market. For example, a

study of Dutch repeaters found that repetition in the final year of schooling was associated with an annual earnings loss of approximately eight percent (3000 Euros) by age 28 due to repeaters taking longer to graduate (Ter Meulen, 2023). Other studies have found associations between repetition and negative outcomes later in life (see Pipa et al. (2025) for examples), including repeaters being more likely to commit violent crimes in adulthood (Eren et al., 2022).

While many of the effects of repetition that have been discussed in this section are negative, the findings of positive and null effects cannot be disregarded, due to the various methodological challenges in obtaining causal estimates[8] and the context-specific nature of repetition's effects (Goos et al., 2021; Valbuena et al., 2021). The implication is that repetition remains a contextually sensitive topic in the international literature, and the practice will likely still be debated for years to come.

In the South African context, repetition has not received much discourse in academia or policy discussions. This is not because it is 'solved', but rather because it is a topic that is under-explored. The next two subsections will provide an overview of South Africa's repetition policies and discuss the country's existing grade repetition literature.

2.3 Repetition policies in South Africa

As in many developing countries, South Africa's overall repetition numbers are not limited or capped, so repetition numbers are high—prior to the COVID-19 pandemic[9], approximately 1 in every 12 learners from Grades 1 to 12 repeated every year[10] (Van der Berg et al., 2019a). However, there are limits on how many times an individual learner can repeat. Officially, according to the Admission Policy for Ordinary Schools (Department of Education, 1998), repetition is allowed once per school phase, where phases consist of the foundation phase (Grades 1 to 3), the intermediate phase (Grades 4 to 6), the senior phase (Grades 7 to 9) and the further education and training (FET) phase (Grades 10 to 12).

While mostly adhered to in earlier grades, the 'once per phase' policy was largely ignored in the FET phase until 2013 when it was specifically endorsed for this phase (DBE, 2012). Kika and Kotze (2018) used the National Income Dynamics Study (NIDS) to determine that although the policy was not strictly adhered to in the FET phase, there was a large decline in the number of learners repeating more than once after the endorsement of the repetition policy in the FET phase. This in turn led to a decrease in overall repetition rates for the period 2013-2016, although repetition rates later increased (Kika & Kotze, 2018).

As a result of South Africa's repetition policy, it is observed[11] that repetition rates 'spike' in grades at the start of most school phases—Grades 1, 4, and 10—and in Grade 8, which is

[8] Due to the absence of a control group, as discussed in Valbuena et al. (2021) and school dropout literature (Brunello & Paola, 2013). See Section 1.1.2 in Selkirk (2025) for a broader discussion.
[9] South Africa's repetition rates were substantially impacted (reduced) by circumstances and policies relating to the COVID-19 pandemic. These changes are not included in the current discussion, but can be found in other research (Van der Berg et al., 2024; Van der Berg et al., 2023a; Wills & Van der Berg, 2024; Wills & Qvist, 2023).
[10] According to the 2016 General Household Survey (GHS), as per Van der Berg et al. (2019a).
[11] See, for example, Van Wyk (2021) for repetition patterns in the Western Cape, which follow national patterns, albeit at lower levels. Figure 3 in Selkirk (2025) also shows the Western Cape and national repetition patterns for the 2019 and 2020 years, using official repetition rates (DBE, 2023).

the first year of high school. These spikes suggest that learners are repeating as soon as the repetition policy allows for them to do so[12], which doesn't inspire confidence that repetition is adequately addressing repeaters' learning deficits.

2.4 Repetition studies in South Africa

Historically, repetition has been a difficult topic to study in South Africa due to the lack of appropriate data, particularly longitudinal data. In the early 2000s, the reporting of repetition in administrative data was problematic or misunderstood[13] (see DBE, 2006; Crouch, 2005; Simkins, 2013), and other sources of repetition data were rare. In recent years, this situation has improved: questions on repetition have been included in household surveys such as the General Household Survey (GHS) and the National Income Dynamics Study (NIDS), and administrative data[14] has begun to track individual learners over time. Such developments have vastly expanded the scope for repetition research, but studies nevertheless remain rare, likely due to limitations with the data or its availability[15].

In 2019, two important studies were conducted that investigated repetition and dropout. The first (Van der Berg et al., 2019a) used data from various administrative and household datasets to highlight the large costs—approximately 8 percent of the national basic education budget—associated with repetition in South Africa, and the study also brought attention to the high number of repeaters and dropouts in the FET phase[16]. Furthermore, it brought to light deficiencies in South Africa's school-level administrative data[17], underlining the need for alternative data sources.

The second study (Van der Berg et al., 2019b) accessed learner-level administrative data, from which a longitudinal dataset could be constructed and used to examine repetition and dropout. Although only a non-random sample of the complete dataset was used in the study, the value of learner-level tracking data was made apparent, and basic analysis of topics such as the relationship between performance, repetition and dropout, and the consistency of performance across time was conducted. Prior to this study, only Van Wyk et al. (2017) had access to a longitudinal dataset to study repetition and dropout—their study was limited to the Western Cape education system over the period 2007 to 2014, and found similar patterns to those found in the 2019 studies.

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[12] In the case of the spike in repetition at Grade 8, it likely indicates that—even if repetition policy officially allows for learners who repeated Grade 5 or 6 to repeat again in Grade 7—schools would prefer to promote weaker learners to Grade 8 where they will become the responsibility of a new (high) school. This is likely deemed preferable to retaining such learners in Grade 7 and incurring the negative consequences (such as heterogenous classrooms and behavioural problems) mentioned in Section 2.1.

[13] As early as 2008, Simkins pointed out deficiencies in the reporting of repetition in South Africa, which was leading to underreporting of repetition when the raw data was used, and drastic variations in repetition numbers depending on the imputation method used (Simkins, 2013). This, and other data limitations restrict the viability of many causal identification strategies.

[14] Such as LURITS (Learner Unit Record Information and Tracking System) and SA-SAMS (South African School Administration and Management Service).

[15] Data from GHS and NIDS have a delay in becoming available and both ask repetition questions retrospectively, which, by default, makes any findings dated in nature. Meanwhile, the longitudinal administrative datasets (LURITS and SA-SAMS) are of variable length and quality, and are not widely accessible to researchers.

[16] Grades 10 to 12.

[17] Specifically, the 'Annual Survey of Schools' data.

Van der Berg et al.'s second study (2019b) has since become part of a series of reports which use longitudinal administrative data to provide descriptive or quantitative analysis of repetition and other educational issues (Van der Berg et al., 2021; 2023a; 2023b; 2024; 2025). Useful insights into repetition patterns can be gained from these reports, but the data is yet to allow for causal analysis of repetition's effects and—although provincial coverage has expanded over time—it is not yet nationally representative. More recent reports have focussed on the COVID-19 pandemic's effects on education, one of which was a major disruption (reduction) to the country's repetition rates from 2020 onward. The analysis in this working paper takes place before the pandemic period, therefore a discussion of the pandemic's effects on repetition is omitted, but insight can be found elsewhere in existing research (Wills & Qvist, 2023; Van der Berg et al.'s 2021-2025 reports; Selkirk, 2025).

Prior to these studies, the usefulness of repetition in South Africa had been cast into doubt, with repetition having been described as 'a lottery' in the past (Lam et al., 2011). In particular, assessment practices and correct identification of repeaters have appeared to be problematic in less functional schools, which are typically found in the lower quintiles of the school system (Van der Berg & Shepherd, 2015; Van Wyk, et al., 2017; Von Fintel & Van der Berg, 2017). Inequality was the main theme of Branson and Lam's (2010) study using NIDS, and they found South Africa's repetition to be highly unequal, with home background predicting repetition to a large extent. A later study by Branson et al. (2013) found that higher quality schools have less repetition overall, further demonstrating the inequalities that exist in South Africa's grade repetition practices.

One of the most recent contributions to the South African grade repetition literature comes from Wills (2023), who provides a quantitative investigation into repetition's effects and also challenges the notion that grade repetition is a lottery. The study uses the Early Grade Reading Study (EGRS) I and II datasets, which follow separate cohorts of Grade 1 learners in the North West (2015-2021) and Mpumalanga (2017-2020), respectively. Same-age and same-grade analyses were conducted to investigate the effects of early repetition on language skills, with mixed results depending on the estimation strategy employed. Among other findings, the results contribute evidence against the 'repetition is a lottery' debate, and also show that repetition may be advantageous in Grade 1, but that returns diminish for later (Grade 2 or 3) repetition. Although the insights have some limitations and pertain to language skills only—therefore they may not extend to other contexts, subjects, or home languages—the study provides an important illustration of the type of data that is required to attempt to causally investigate repetition's effects. In particular, it highlights the value of having a baseline measure of achievement and also the utility of comparable same-year achievement data for both repeaters and non-repeaters.

Clayton (2025) also examines early grade repetition across six of South Africa's nine provinces, and uses a fuzzy RDD design in an attempt to gain causal estimates of the effects of repeating Grade 1 on learners' academic performance (tracked to Grade 4 level). The study finds large positive impacts from Grade 1 repetition in both language and mathematics achievement, with some—but not complete—fadeout over time. However, the effects cannot be separated from maturation effects nor extrapolated for learners who fell well below the Grade 1 promotion thresholds, and the study is subject to other limitations which temper the conclusions that can be made regarding repetition's effects.

Nevertheless, the findings contribute valuable additional evidence that Grade 1 repetition may be advantageous, and the study also suggests that repetition in higher grades yields fewer academic benefits than earlier repetition[18].

At a secondary school level, it has been found that learners incur various negative psychosocial and learning impacts through having classmates who have repeated in the past (Fourie & Schlebusch, 2021). There is also evidence to suggest that secondary school dropout may be related to repetition, but any causal relationship remains to be established. In the South African context, the school system has universal enrolment in Grade 1 and good learner retention in primary school (Bashir et al., 2018), but there are significant numbers of learners who drop out in secondary school. Many of these dropouts are learners who are overage, indicating prior repetition (Van der Berg et al., 2019a; Branson et al., 2013), which suggests that the two factors might be related.

As a developing country with poor academic performance and weaker remediation ability, South Africa's high repetition rate is not out of the ordinary (Fiske et al., 1998). However, the practice incurs considerable costs and—as evidenced in the literature—may lead to dropout or other negative consequences. Therefore, it is important to have a better idea of repetition patterns and how effectively schools identify repeaters, and also to know if repeaters' performance improves following repetition, and—if it does—if the improved performance persists over time. These are the topics that will be investigated in the remainder of this paper, using data from the Western Cape. The Western Cape may not be representative at a national scale, but it can nevertheless provide valuable insight and a point of reference as one of the country's better-managed provinces.

3. Data and Methodology

This study draws data from three sources: the Western Cape Centralised Education Management Information System (CEMIS) data, the Western Cape systemic test data, and the Department of Basic Education's master list. Ethical clearance and gatekeeper permissions were obtained from the relevant parties for the first two data sources, and the data was obtained in an anonymised format to protect the identity of learners in the data. The third dataset is publicly available information, and required no special permissions to use.

CEMIS provides learner-level information such as gender, date of birth, and grade enrolment for the period spanning 2007 to 2019, and includes all learners enrolled in Western Cape schools over the period, totalling approximately one million observations per year across Grades R to 12. Learners' information can be linked and tracked across years via a unique and anonymous identifier, and a longitudinal dataset can be constructed to track a learners' progression through the school system.

[18] The bulk of Clayton's (2025) analysis focusses on Grade 1 repetition (tracking learners to Grade 4), but her study also includes analysis of the effects of repeating Grade 4 on learners' achievement (up to Grade 7). For Grade 4 repetition, the benefits were found to be smaller than for Grade 1 repetition, although they also faded out less over time.

The Western Cape systemic test data contains the results of standardized mathematics and language tests conducted every year at a Grade 3, 6 and 9 level that are marked and moderated externally. The systemic tests are designed to be comparable within individual grades across years, but they are not standardized vertically across grades. The test results can be matched to individual learners in the CEMIS dataset through the unique learner identifier, providing a way to track learners' achievement as they progress through the school system. This also provides learners' achievement before and after repetition, since a learner repeating Grade 3 will be tested both in the year before and the year of the repetition. The systemic test data was available for the years 2010 through 2019.

The DBE master list contains school information such as school quintile, which can be merged into CEMIS and the systemic data via school EMIS (Education Management Information Systems) numbers. This allows for school-level characteristics to be examined.

In order to allow for the longest period of study, this study examines the cohort of learners that were in Grade 3 in 2011, hereafter referred to as the '2011 cohort'. While the Grade 3 2010 cohort would have allowed for an additional year of tracking learners, the difficulty of the systemic tests was adjusted upwards between 2010 and 2011 (see WCED (2019), and Figure A1 in Appendix A). This adjustment would confound analysis of the 2010 Grade 3 cohort and limit the generalisability of any findings.

3.1 Limitations

Attrition

As expected of administrative datasets, the data is not perfect and has some limitations. Nevertheless, the overall quality of the data is good, and it is one of the most reliable datasets of its kind in South Africa, with data entry errors appearing to be minimal.

The greatest data limitation is attrition from CEMIS over the period of study. While it is normal to observe some dropout from the school system, it is known that South Africa has near universal primary school enrolment, so not much attrition would be expected in the first few years of observation after Grade 3. Yet within just the first five years of tracking the learners, the 2011 cohort had a cumulative total attrition of nearly 6,000 learners (approximately eight percent of the initial sample), and this only climbs as the time period under study increases. The attrition can be explained by the following:

a) Learners may have dropped out of school permanently
b) Learners may have entered private schooling or home schooling
c) Learners may have emigrated, moved province, or passed away
d) Learners may have erroneously been assigned a new unique identifier when, for example, changing schools

Since the data is anonymized, it is not possible to examine "(d)", the prevalence of erroneously assigned new learner identifiers. A spike in 'drop outs' and 'drop ins' between Grades 7 and 8—where many learners change schools as they move from primary to high school—could indicate that these numbers are non-negligible. However, these spikes could also in part reflect movement between the public and private school sector "(b)"

during the primary to high school transition. The current data similarly provides no indication of the numbers of learners exiting the Western Cape public school system under the reasons provided in "(b)" and "(c)", so it is impossible to isolate true school dropout "(a)" from the total attrition from CEMIS. As a result, the current study does not investigate the links between repetition and dropout, despite it being a topic that warrants further investigation.

It must be noted that attrition from the sample is non-random, as evidenced by the averages presented in Table 1. A balanced panel of learners—referred to as 'Final sample' in Table 1—was created containing only learners who could be tracked up to and including Grade 9, and who were not missing achievement, school, or learner characteristic data in the years they appear in Grades 3, 6 and 9. Of the 76,233 total learners in Grade 3 in 2011, 48,153 (approximately 63 percent) of learners were retained in the final sample. The majority of the learners excluded from the final sample were omitted because they could not be tracked to Grade 9 (i.e. attrition from the dataset), not because of incomplete data in the relevant years.

Table 1: Grade 3 learner characteristics for the balanced panel compared to learners excluded from the final sample

Gr3 Cohort	Final sample?	Number of learners	Gr3 math mark	Gr3 lang mark	Overage in Gr3	Female	Quintile in Gr3
2011	Yes	48,135	53.82	42.35	0.19	0.54	3.67
2011	No	28,098	41.05	31.73	0.45	0.43	3.32

Source: Own calculations using CEMIS 2011-2019. Overage and female averages represent the percentage of the sample, expressed as a decimal.

Table 1 shows that learners who were included in the final sample achieved, on average, better results in both mathematics and language in Grade 3. They were also less likely to be overage in Grade 3, more likely to be female, and in a higher school quintile on average. While no causal links can be drawn between lower achievement, overage status, and dropout (or attrition) based on this information alone, it is important to keep in mind that any results obtained in the present study exclude learners most at risk of repetition and dropout[19] and are therefore likely to overestimate the benefits (or underestimate the costs) of repetition.

Test difficulty adjustments

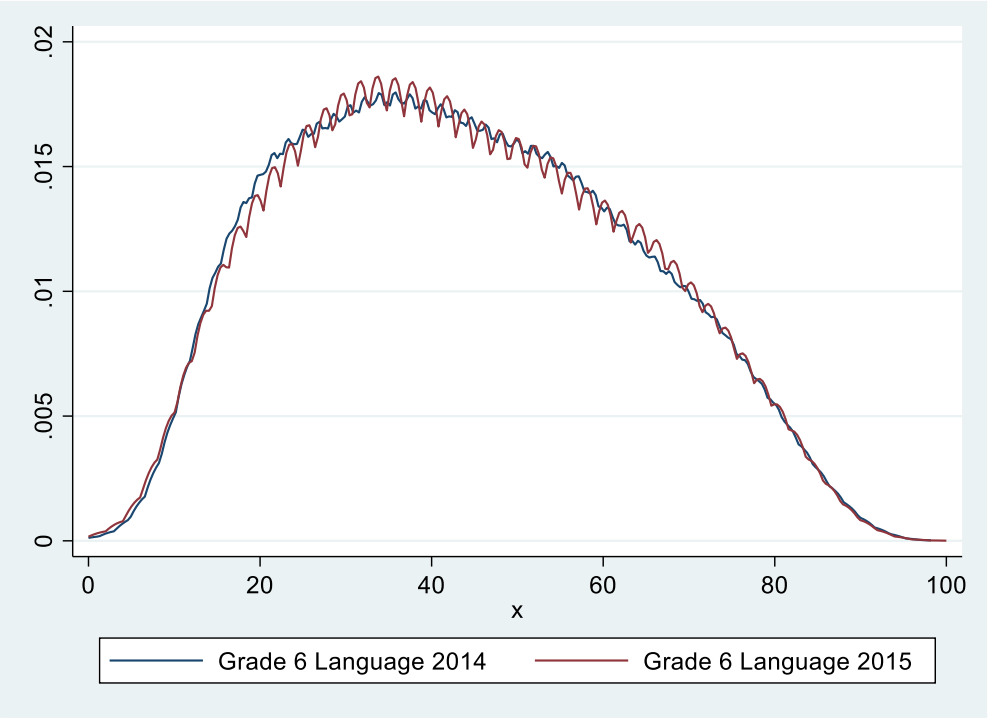
A further limitation of the data is that the difficulty of the systemic tests was adjusted in both 2011 and 2015. This was to calibrate the tests to international benchmarks, and the changes were announced by the Western Cape Education Department (WCED, 2016). According to official announcements, in 2011 the difficulty of all tests was increased, while in 2015 only the Grade 3 and 6 language tests were increased in difficulty.

The 2011 change in test difficulty should not have impacted the 2011 cohort's results—unless schools had not yet adapted their teaching to the increased difficulty in 2011—but

[19] As already discussed in the literature section, the characteristics of the learners excluded from the balanced panel—lower achievement, higher age, male gender, and lower school quintile—are usually associated with higher risk of repetition and/or dropout.

the 2015 adjustment may have had an effect, since some learners who were in Grade 3 in 2011 would have written the Grade 6 language test in 2015. However, while the change in difficulty of the Grade 6 language test was announced, the change is not apparent (Figure 1) when comparing the results of all Grade 6 learners across 2014 and 2015. The WCED officially attributes this to improved learner performance (WCED, 2016), but it is also possible that the difficulty change was minor or that marks were standardized in line with previous years' results. Therefore, while it should be kept in mind that the repeaters' Grade 6 achievement may be underestimated[20], it is unlikely that this will notably affect the results of the present analysis.

Figure 1: Grade 6 language achievement distributions for 2014 and 2015 for all Western Cape learners



Source: Own calculations using CEMIS 2010-2019. The achievement distributions are shown for all learners who wrote the Grade 6 systemic language test in 2014 and 2015, not just the learners in this study's balanced panel.

The comparability of tests across time is an important assumption for the present study, because the cohort's repeaters will write tests in different years to non-repeaters. Since the tests are designed to track improvement across years[21], this is not a strong assumption to make. However, to check the validity of the assumption, the distributions in Figure 2(a)-(d) show the achievement for the all learners—not just the balanced panel of learners[22]—for the years in which the Grade 3 2011 cohort might end up in the relevant grades.

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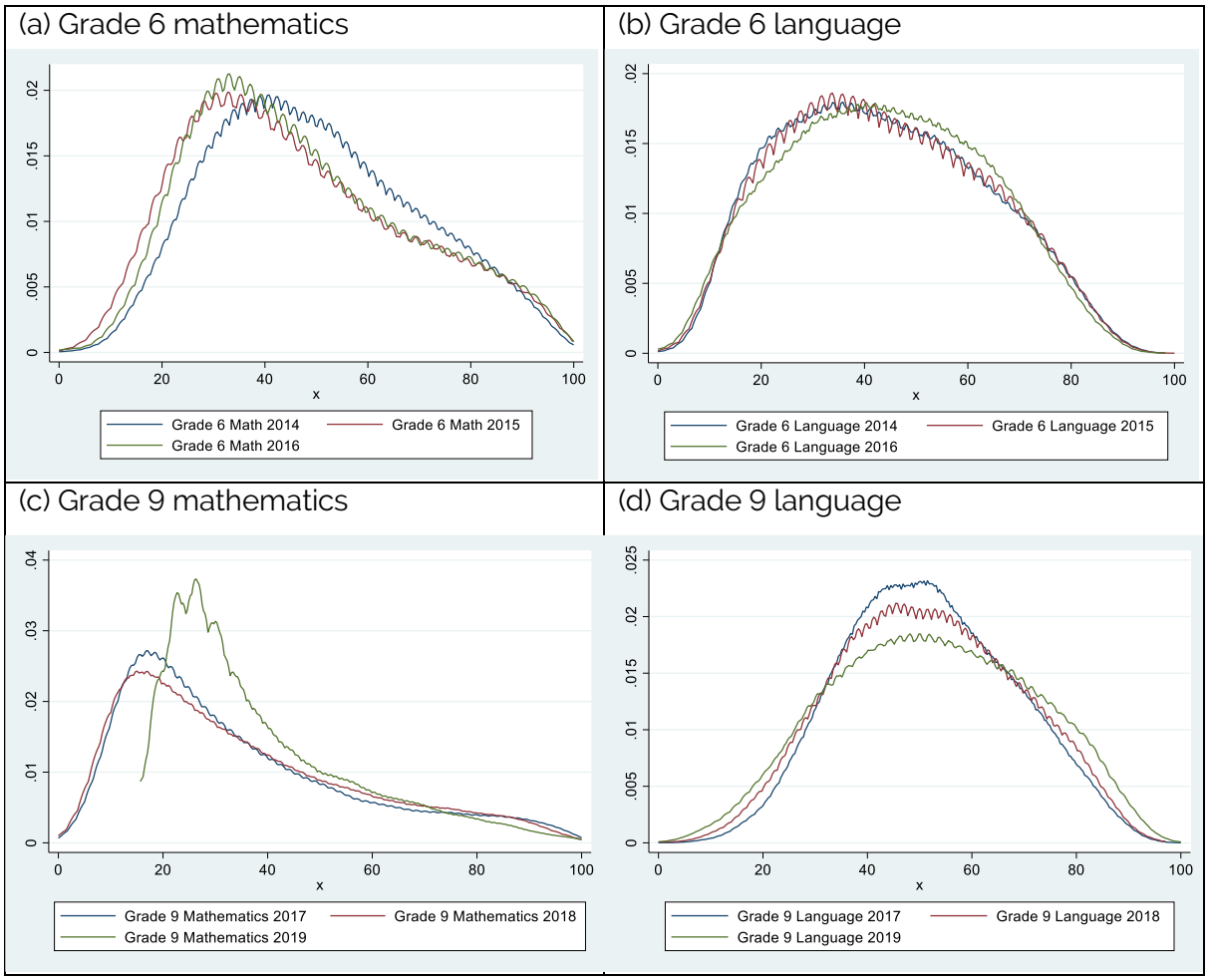
[20] Learners of the 2011 Grade 3 cohort who wrote the 2015 language test would be those who repeated a grade between 2011 and 2015. If the 2015 test was indeed more difficult, these repeaters' achievement would be lower than if they'd written the test in 2014 like the cohort's on-track learners.
[21] See Gustafsson and Taylor (2017) for an overview of the various efforts made to achieve test comparability.
[22] In the case of the balanced panel, the year in which learners wrote the systemic tests corresponds to learners' repetition status (see, for example, footnote 20). If the achievement distributions across years were only compared for learners in the balanced panel, differences would likely reflect the differences between repeaters and non-repeaters, not differences in test difficulty.

The achievement distributions do appear to be fairly consistent across time—some differences are to be expected from natural variation over years—with the exception of the Grade 9 mathematics achievement in 2019. There do not appear to be reports of the difficulty of the Grade 9 tests being decreased, yet it is unlikely that the shape of the achievement distribution would change so drastically across a single year when Grade 6 achievement three years earlier did not similarly improve. It is therefore likely that some adjustments were made to the Grade 9 2019 tests to make them easier for the lowest performers, but that this was not officially announced. It is therefore important to note that repeaters' Grade 9 achievement may be overestimated in the present study.

Figure 2: Grade 6 (2014-2016) and Grade 9 (2017-2019) achievement distributions for all Western Cape learners



Source: Own calculations using CEMIS 2010-2019. For the reasons given in footnote 22, the achievement distributions are shown for all learners who wrote the Grade 6 and 9 systemic tests in the specified years, not only for the learners in used in this study's balanced panel. The years reflect the possible years the 2011 Grade 3 cohort may have reached the specified grades, depending on their repetition status.

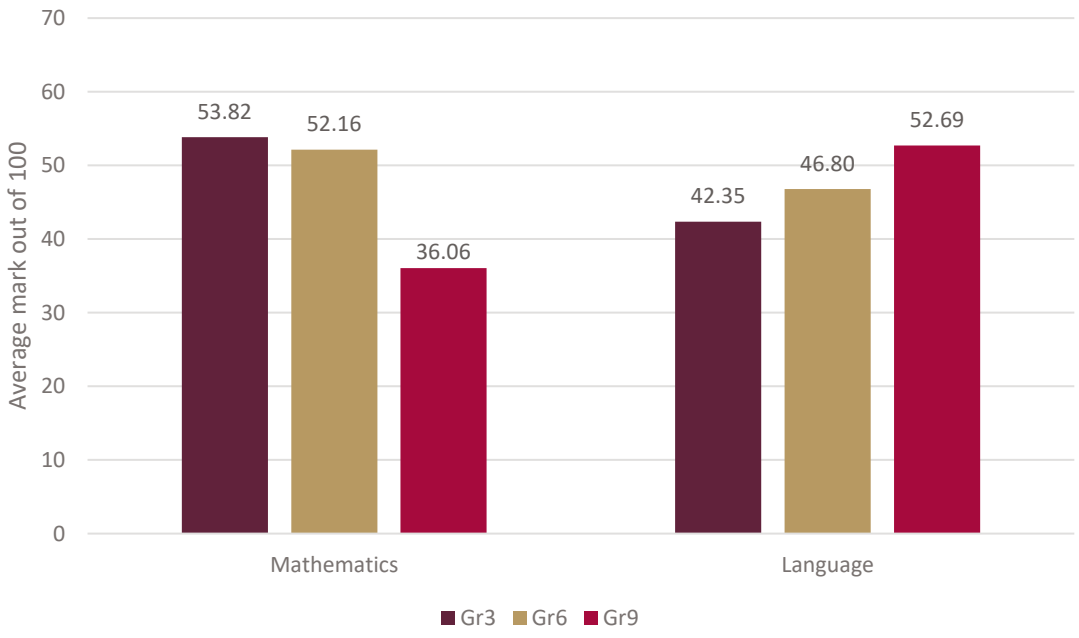
3.2 Data

Achievement

As has been discussed, repeaters in this study's cohort write the systemic tests in different years to non-repeaters, so to have a comparable achievement measure it is necessary to assume that achievement on the systemic tests is comparable across time[23]. For the rest of this paper, achievement is referred to by grade and subject (e.g. Grade 6 mathematics achievement), where this refers to a learner's achievement in whichever year they wrote the tests. For example, a learner in the 2011 Grade 3 cohort who did not repeat will have a Grade 6 mark from 2014, while a learner who repeated once will have a Grade 6 mark recorded from 2015.

Mathematics and language achievement exhibit opposite trends when comparing achievement across grades[24], as illustrated in Figure 3. The average mathematics performance declined between Grades 3 and 9—with the steepest decline between Grades 6 and 9—while language achievement improved steadily between Grades 3 and 9, with only a slightly larger increase between Grades 6 and 9.

Figure 3: Mathematics and language achievement for the 2011 Grade 3 cohort



Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019.

The sub-sections that follow explore achievement according to various school and learner characteristics, and also explain the variables included in this paper's regression analysis.

[23] As shown in the previous sub-section, this assumption is not perfectly satisfied and the results should therefore be interpreted with caution. However, for the most part, the assumption does hold, as was the view of Gustafsson and Taylor (2017).

[24] The systemic tests do not test cumulative knowledge, nor are they standardized across grades. Therefore, a decline in achievement from Grade 3 to 9 does not necessarily represent a regression in relative or absolute knowledge.

Quintile

School quintile information was obtained from the DBE's school masterlist, and a learner's school quintile was taken to be that of their school in the year of testing[25]. South Africa's school quintiles are determined nationally based on an administrative classification of school wealth—rather than the statistical definition of a 'quintile'—and do not contain 20 percent of schools, even at a national level. In the balanced panel of learners in the Western Cape, nearly two thirds of Grade 3 learners were in the wealthier two quintiles: Quintile 4 (30%) and Quintile 5 (34%)[26]. Only nine percent of learners were in Quintile 1 schools, therefore Quintile 5 is used as the reference group in the regression analyses. By Grade 9, higher quintile schools had an even higher share of learners in the balanced panel (42% in Quintile 5, and 26% in Quintile 4).

Figure A2 in Appendix A illustrates differences in the achievement distributions across the five school quintiles in each grade and subject. In all grades and subjects, the Quintile 5 achievement distribution is distinct from the other four quintiles and lies to the right, indicating higher overall achievement. It is notable that by Grade 9 there were almost no high-achieving[27] learners in Quintile 1 to 4 schools. This is particularly pronounced in language, where there were no learners from Quintiles 1 to 4 schools achieving 100% on the Grade 9 language test. This does not, however, imply that performance in Quintile 5 schools was uniformly good—there still exists substantial underperformance in Quintile 5 schools, especially in Grade 9 mathematics, where over half (55 percent) of Quintile 5 learners achieved less than 50 percent on the test.

Gender

Learners' gender is provided directly by the CEMIS dataset, and the field was fully populated, so no imputation was required. Mathematics achievement was similarly distributed for both genders in all grades, with only a slight difference in Grade 6 where there were fewer low-performing girls than boys but similar frequencies of high performers. In language, girls outperformed boys in all grades; as an example, Figure A3 in Appendix A shows the achievement distributions for Grade 3 language by gender.

Overage status

The CEMIS dataset provides a learner's year of birth, from which their age can be calculated to determine if they are the correct age for their grade. Since most learners begin Grade 1 in South Africa in the year they turn seven, a 'correctly aged' Grade 3 learner would turn nine in Grade 3, and therefore be born in 2002 if they were in the 2011 cohort[28]. Consequently, learners were classified as being 'overage' in 2011 if they were born before 2002, and 'correctly aged' if they were born in 2002 or later. Underage learners—of which

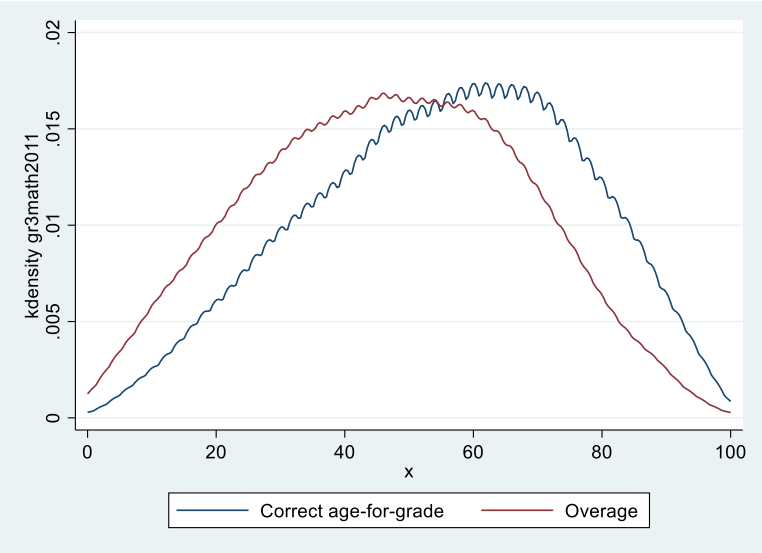
[25] This distinction is made because learners change schools throughout their school careers and may not have remained in the same school quintile every time they were observed in the analysis (i.e. Grades 3, 6 and 9).
[26] The Western Cape is one of South Africa's wealthiest provinces, therefore this school quintile distribution is not representative of the national distribution.
[27] 'High achieving' here refers to learners with a mark of 80% or above for the systemic tests.
[28] This is an oversimplification, as the month in which a learner is born may also determine the appropriate year of entry. However, practices vary by province and quintile (Böhmer, forthcoming), therefore this method of calculating overage status is used to maintain consistency with preceding literature (for example, Van der Berg et al. (2021)).

there are relatively few in the South African school system—were grouped together with the 'correctly aged' learners in this study.

Nearly 20 percent of the balanced panel was overage in 2011, signifying high repetition rates in early grades. In this study, overage status in Grade 3 is used as a proxy for a learner's earlier repetition, and no distinction is made by which earlier grade was repeated. This is because the sample size was too greatly reduced if individual learners were tracked back to Grade 1 in the CEMIS data in order to determine which grades were repeated prior to 2011.

Without achievement data prior to Grade 3 it is impossible to determine how early grade repetition affects Grade 3 achievement. There is a clear achievement gap between overage and correctly aged learners in both mathematics and language in Grade 3, but it cannot be determined if this gap was reduced, widened, or unaffected by the overage learners' earlier repetition[29]. The difference in mathematics achievement is illustrated in Figure 4, and the gap in achievement between these two groups of learners persists in both subjects into Grades 6 and 9.

Figure 4: Grade 3 mathematics achievement by age status (2011)



Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019.

Language switch

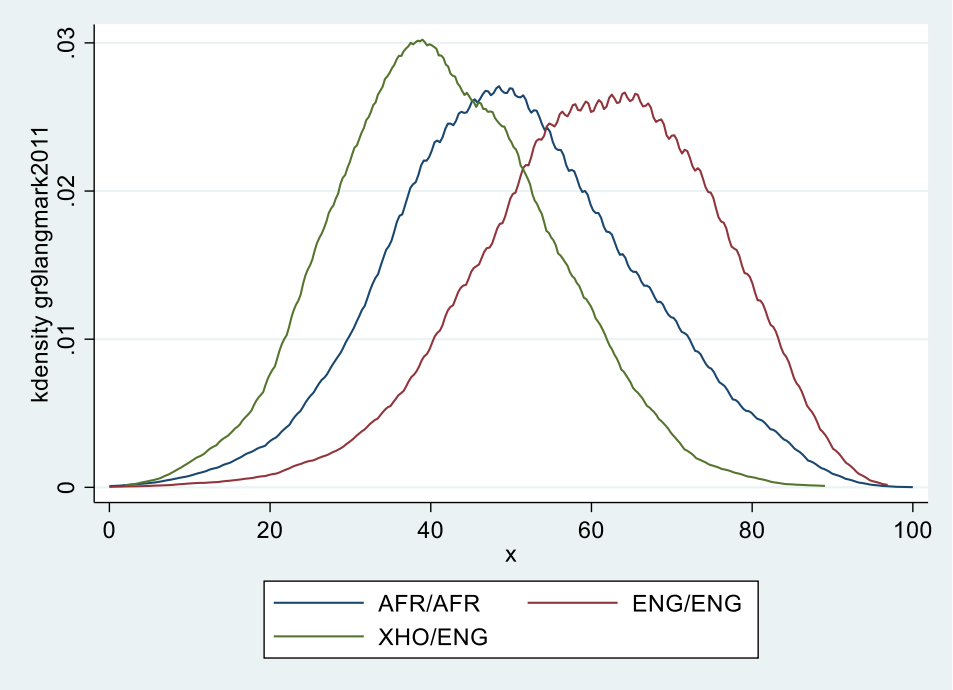
The systemic tests examine learners in the school's language of learning and teaching (LOLT) in every grade. Since most South African schools use either Afrikaans or English as their LOLT from Grade 4 onwards (DBE, 2010), the Western Cape systemic tests are only offered in these two languages at Grades 6 and 9 level (WCED, 2023). Therefore, learners who are tested in isiXhosa in Grade 3 will by necessity write either the English or Afrikaans language tests in Grades 6 and 9. To see what effect this language switch had on performance, learners were grouped into the three most common categories: Learners

[29] It cannot be assumed that the difference in achievement between repeaters and non-repeaters is attributable to repetition, because repetition decisions are (presumably) based on achievement—selection into the 'overage' and 'correct age-for-grade' groups is non-random, with lower ability learners more likely to belong to the 'overage' group. See Section 1.1.2 in Selkirk (2025) for references and a discussion on this.

who were tested in Afrikaans in Grade 3 and continued in an Afrikaans school in Grade 4; learners who switched from isiXhosa to English; and learners who remained in English LOLT schools. Learners who underwent a different language switch or for whom school LOLT was unavailable were retained under separate categories to preserve sample size, but their results are not discussed in detail since there were few such learners.

For all tests and grades, the learners who remained in English LOLT schools performed best, and learners who remained in Afrikaans LOLT schools performed better than those who switched language from isiXhosa to English. The largest achievement differences existed in language, and Figure 5 illustrates these gaps at a Grade 9 level. For learners who switched from isiXhosa to English, the achievement gap widened after Grade 3. This may indicate that learners are not making a smooth transition to the different language of instruction, or it may indicate that learners are not as proficient in the new LOLT as in their original LOLT, and that they do not catch up in proficiency by Grade 9.

Figure 5: Grade 9 language achievement by language switch



Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019.

Rank persistence within-school and within-province

To investigate how persistent a learner's performance is across time—as well as how much heterogeneity exists in the Western Cape school system—learners were separated into terciles of low, middle, and high-achievement based on their Grade 3 achievement. This was done at both a school and a provincial level.

The achievement distributions of school-level rankings at Grade 3 level show significant overlap. For instance, a learner with a mark of 50 out of 100 could fall within the top, middle, or bottom third of their school's achievement distribution, depending on which school they attended. This heterogeneity confirms previous findings of large differences in achievement across schools in the South African school system.

Over time, a learner's within-school Grade 3 rank appears to matter less and less—by Grade 9, the achievement distributions for the different groups of Grade 3 achievers overlap substantially more than they did for Grade 3 achievement. The only area with no overlap is for the highest language achievers in Grade 9, where all of the learners achieving above 95 percent were also in the top third of language achievement within their schools in Grade 3.

Achievement ranking is more persistent when comparing learners' achievement in higher grades to their earlier within-province Grade 3 achievement ranking. In both subjects at Grade 6 and 9 level there was substantial overlap of achievement distributions by within-province Grade 3 rank. This indicates that early achievement is not the sole determinant of later achievement, but there was nevertheless still clear evidence of some relationship between the two. One example of this is demonstrated by Table 2, which shows the maximum mark obtained in the Grade 6 and 9 tests by learners from each Grade 3 achievement tercile.

Table 2: Maximum achievement by Grade 3 provincial achievement tercile

	Language		Mathematics	
Provincial Gr3 rank:	**Gr6**	**Gr9**	**Gr6**	**Gr9**
Bottom third	82	88	93	90
Middle third	89	91	100	97
Top third	98	100	100	100

Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019.

Although ranking in the lowest 33 percent of achievers in Grade 3 did not preclude outperforming higher-ranking peers in later examinations, Table 2 shows it did appear to limit the maximum possible achievement. In Grade 9 mathematics, for example, not a single learner who placed in the bottom tercile of Grade 3 mathematics achieved above 90 percent on the Grade 9 test. This effect appears to be worse in language than in mathematics, but in both subjects it demonstrates that there is at least some persistence in learners' achievement levels over time.

3.3 Methodology

To econometrically investigate the links between repetition and achievement across years, Ordinary Least Squares (OLS) regression is used. In all regressions, the regression equation takes on the following form:

$$y_{is} = \beta_1' \boldsymbol{a} + \beta_2' \boldsymbol{x_i} + \beta_3' \boldsymbol{z} + \varepsilon_{is}$$

where *y* represents the outcome variable; **a** is a vector of prior repetition dummies; **x** is a vector of school and learner characteristics; **z** is a vector of learner achievement in previous grades; and ε is an error term, assumed to have a mean of zero. In the above equation, the subscripts refer to learner *i* in school *s*. In the regression results presented in Section 4, whenever the outcome of interest is a binary variable (e.g. repetition), the estimated coefficients ($\beta's$) can be interpreted as percentages—for example, $\beta = 0.01$ indicates that a one unit increase in the corresponding covariate value relates to a one percent increase in the probability of the outcome variable. Where the *y* is an achievement variable, the

estimated coefficient corresponds to the change in achievement on a scale of 1 to 100. In this case, $\beta = 1$ would indicate a one percentage point increase in achievement resulting from a one unit increase in the corresponding covariate's value.

Unfortunately, estimates obtained through OLS are not causal—as is well documented in Valbuena et al. (2021)—but they nevertheless provide greater insight into the associations between the outcome and explanatory variables than those provided by simple descriptions of the data. The results in Section 4 should be considered with this in mind.

4. Results

4.1 Descriptive results

Repetition as a 'lottery'

To investigate how well repetition decisions align with academic achievement—in other words, whether repetition resembles a 'lottery'—the Grade 3 achievement of learners who repeated at the end of 2011 can be compared to the achievement of their peers who were promoted (or progressed) to Grade 4. Table 3 shows the number of learners reaching a 50% benchmark on each test in 2011, according to whether they repeated Grade 3 in 2012.

Table 3: Grade 3 2011 learners reaching achievement benchmarks

	Promoted* to Gr4	Repeats Gr3	Total
Meets neither benchmark	15,974	1,365	17,339
	34.4%	80.2%	36.1%
Meets 50% language Gr3	2,067	54	2,121
	4.5%	3.2%	4.4%
Meets 50% mathematics Gr3	13,060	243	13,303
	28.2%	14.3%	27.7%
Meets both benchmarks	15,289	40	15,329
	33.0%	2.4%	31.9%
Total	46,390	1,702	48,092
	96.5%	3.5%	100%

*Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019. *Promoted here includes learners who failed to meet the promotion requirements but were progressed due to having already repeated a grade in the foundation phase (Grades 1 to 3).*

Overall, 3.5 percent of the 2011 cohort repeated Grade 3 in 2012. There was overlap in the achievement of repeaters and non-repeaters, but repeaters were lower achievers in general, with 80 percent of repeaters meeting neither benchmark. The learners that one might label as being 'misclassified' (in red, Table 3) would be the 34 percent of non-repeaters who met neither benchmark but were nevertheless promoted to Grade 4 in 2012, and the two percent of repeaters who met both benchmarks but were held back. While some of the non-repeaters meeting neither benchmark may be learners who had already repeated and could not repeat again per repetition policy, only 19 percent of learners were overage at the start of the study, so they cannot fully account for the underperforming learners who did not repeat.

It is difficult to quantify to what extent the misclassified learners are an issue. Behavioural, developmental, and social factors play a role in repetition decisions, so it is unsurprising to see some learners who achieved academic benchmarks being held back. In addition, in such a low-performing system it is not possible to hold back every learner who meets neither benchmark (doing so would have resulted in a 36 percent repetition rate for this cohort). It is also relevant that repetition decisions are based on school-based assessment, not systemic test results, and achievement may differ across tests. To understand the reasons for the mismatches shown in Table 3, more research is needed that uses school-based assessment (SBA) data[30]. Nevertheless, the current results suggest that repetition is not completely random and does generally correspond with learners' achievement.

Repeaters' achievement in the short, medium and long term

The short-term 'effect'[31] of repetition on achievement can be investigated by comparing repeaters' Grade 3 achievement to their achievement in the previous year. Table 4 on the next page illustrates this for the 2011 Grade 3 cohort, where it is clear that the additional time spent in Grade 3 did improve repeaters' performance in 2012. However, even after repeating the year, there were still 32 percent of learners who met neither benchmark, and just under 30 percent of learners who met both.

It is somewhat concerning that many of the learners still did not reach both benchmarks despite repeating the year[32], but it is also not clear how much of the improvement shown in Table 4 is directly attributable to repetition. This is because some improvement would presumably occur simply from spending an additional year in school, which would also have happened if the learners had spent the year in Grade 4 instead of Grade 3. Nevertheless, it can be said that the repetition likely increased repeaters' content knowledge by the time they entered Grade 4, and this increased preparedness could, in itself, be seen as sufficient justification for holding learners back.

To look at the longer-term 'effects' of repetition and its timing, it is possible to compare achievement distributions at a Grade 6 and 9 level according to learners' repetition status (see Figure 6). It can be seen that by Grades 6 and 9, repeaters—despite an additional year spent in school—have still not reached the same level of achievement as their non-repeating peers. However, learners who repeated earlier (Grade 3) outperformed learners who only repeated later (in Grade 4 or 5), and this was true across grades and subjects. These findings may indicate that earlier repetition is more beneficial (or less harmful) to learners, but they could alternatively indicate that there are other factors correlated with both achievement and the timing of a learner's repetition.

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[30] For such research it would also be necessary to establish how reliable South Africa's SBA is across schools, since it is possible that learners may be meeting promotion requirements but still failing to meet appropriate levels of knowledge (due to inappropriately low SBA standards in some schools).

[31] Although the word 'effect' is used, it does not imply causality, as will be discussed after Table 4.

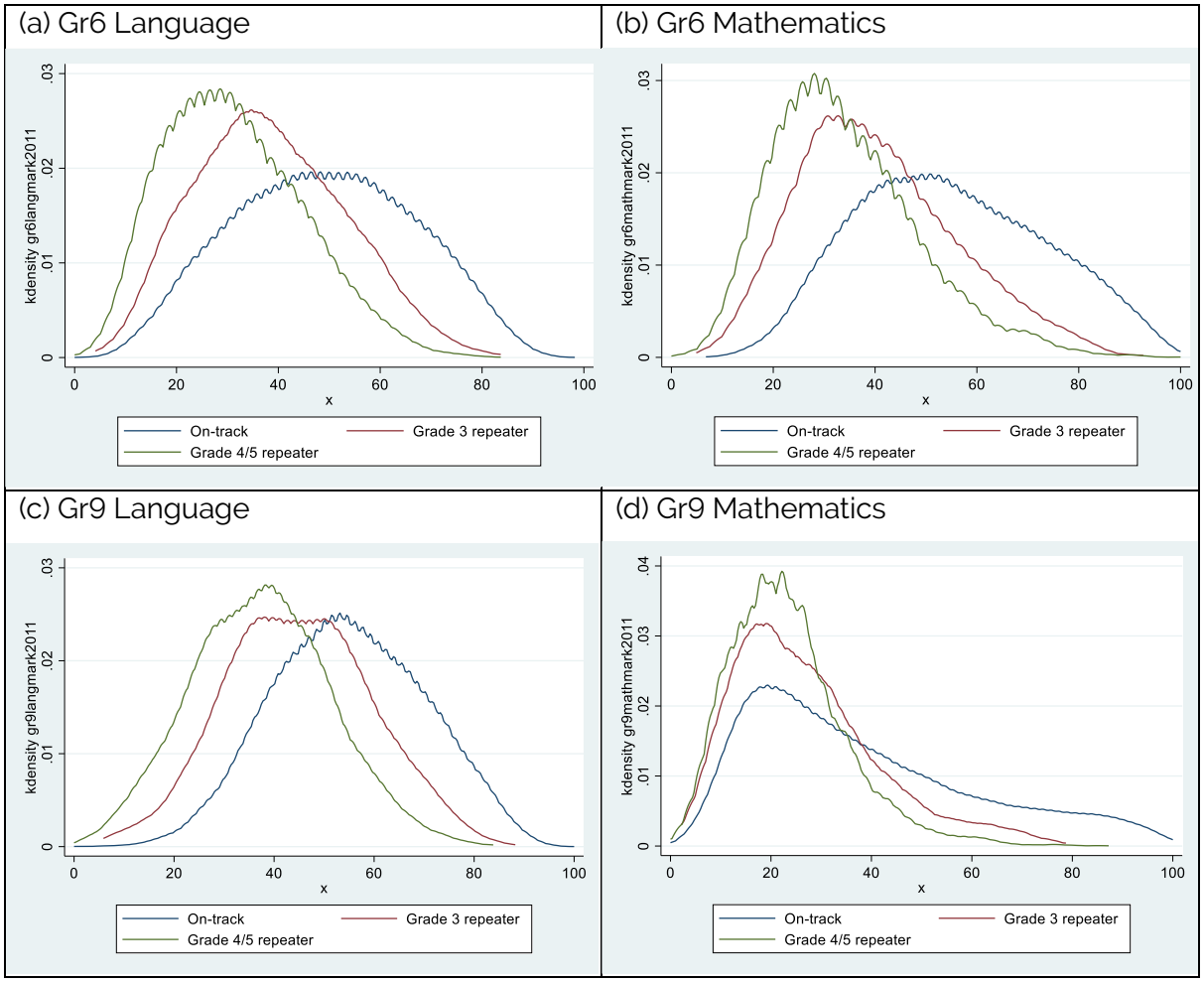
[32] The Grade 3 repeaters' achievement post-repetition (i.e. in 2012) is at least close to—and in some ways a little better than—the achievement of the learners who were promoted at the end of 2011. For example, 34.4 percent of promoted learners met neither benchmark in 2011, while 32.4 of repeaters met neither benchmark in 2012. However, the learners 'promoted' at the end of 2011 would also have included learners who could not repeat again due to the 'once-per-phase' repetition policy, which would skew promoted learners' achievement downwards. In addition, lower proportions of repeaters met both benchmarks in 2012—29.7 percent, compared to 33 percent of 2011's promoted learners. Therefore, this concern regarding repetition's effectiveness is valid.

Table 4: Grade 3 repeaters' achievement before and in the year of repetition

	Pre-repetition (2011)	Post-repetition (2012)	Change (2012-2011)
Meets neither benchmark	1,365	551	-814
	80.2%	32.4%	-47.8%
Meets 50% language Gr3	54	131	77
	3.2%	7.7%	4.5%
Meets 50% mathematics Gr3	243	514	271
	14.3%	30.2%	15.9%
Meets both benchmarks	40	506	466
	2.4%	29.7%	27.4%
Total	1,702	1,702	-
	100%	100%	

Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019.

Figure 6: Repeaters and non-repeaters' achievement in Grades 6 and 9



Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019. The group labels correspond to the timing of repetition: 'On track' learners did not repeat between Grades 3 and 6; 'Grade 3 repeaters' repeated in Grade 3; and 'Grade 4/5 repeaters' repeated Grade 4 or 5. Learners who repeated twice between Grades 3 and 6 are not shown due to their small sample size.

The preceding discussions have highlighted the complexities associated with making inferences regarding repetition's causal effects, and shown why econometric analysis is necessary. The remainder of this results section uses OLS regressions (discussed in Section 3.3) to explore repetition's associations with achievement and progression outcomes. In doing so, some of the descriptive findings of the present sub-section will be expanded upon.

4.2 Associations between early repetition and Grade 3 outcomes

As previously discussed, learners who were overage in Grade 3 in 2011 are assumed to have repeated a grade prior to 2011. It is therefore possible to investigate how repeating an earlier grade (Grade 1 or 2) is associated with Grade 3 mathematics and language achievement, and also to see how strictly repetition policy is adhered to in Grade 3 itself.

Grade 3 is part of the same school phase as its preceding grades, so learners who have already repeated should not (officially) be allowed to repeat again. However, as Table 5 shows, some learners who were overage in 2011 still repeated Grade 3 at the end of 2011. But the numbers were small and may represent learners who started school late, so on the whole it appears that there is good adherence to official repetition policy.

Table 5: Grade 3 repetition status by age

Repeats in 2012?	Correct age in 2011	Overage in 2011	Total
No	37,201	9,189	46,390
Yes	1,574	128	1,702
Total	38,775	9,317	48,092

Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019.

To further investigate if repetition appears to be a lottery, regression (1) in Table 6 shows repetition at the end of 2011 as predicted by achievement, controlling for other characteristics (including learner's age status in 2011, and whether they were already repeating Grade 3 in 2011). Both mathematics and language achievement are negatively associated with repetition, indicating that higher achievers are less likely to repeat at the end of the year. This association, together with the strong statistical significance of the estimated coefficients, does not lend credibility to the theory that repetition is a lottery.

Although Table 6 doesn't support the theory of repetition being a lottery, it does show that repeaters still lag behind their peers academically, despite the additional time spent in school. Regressions (2) and (3) show Grade 3 language and mathematics achievement predicted by overage and repetition status, while controlling for other learner and school characteristics—being overage in Grade 3 is associated with a 4.6 percentage point lower language mark and a 6.7 percentage point lower mathematics mark. This is not, of course, solely attributable to repetition (no controls for learner ability are included), but it could suggest that repetition is not adequately facilitating catch-up. This is supported by other findings from Table 6—one would expect that Grade 3 repeaters who were covering the

curriculum for the second year in a row would outperform overage learners (i.e. Grade 1 or 2 repeaters) who were in Grade 3 for the first time, but this is not the case. There are no statistically significant coefficients found for learners who were spending their second year in Grade 3, and in the case of language, the coefficient is even negative (but still not statistically different from zero).

Table 6: Grade 3 outcomes predicted by regressions for the 2011 Grade 3 cohort

Outcomes: → Control variables: ↓	(1) Repeats in 2012	(2) Gr3 language mark	(3) Gr3 mathematics mark
Overage (2011)	-0.041***	-4.586***	-6.668***
	(0.003)	(0.280)	(0.302)
Repeating Gr 3 (2011)	-0.025***	-0.678	0.581
	(0.002)	(0.510)	(0.521)
Gr 3 language mark	-0.001***		
	(0.000)		
Gr 3 mathematics mark	-0.002***		
	(0.000)		
Constant	0.154***	36.082***	53.621***
	(0.009)	(1.394)	(1.379)
Observations	48,092	48,135	48,135
R-squared	0.051	0.247	0.206
Controls:			
School	X	X	X
Learner	X	X	X

Robust standard errors (clustered at a school level) shown in parentheses. The reference category is learners who are neither overage in 2011 nor repeating Grade 3 in 2011. School controls include Grade 3 quintile and fee-charging[33] status. Learner controls include gender and race, as well as missing 2011 repeater status. Note that the smaller sample size in regression (1) is due to some observations missing grade data for 2012.
*** p<0.01, ** p<0.05, * p<0.1

These findings pose a concerning conundrum: if learners who have already spent an additional year in school through repetition are still performing worse than their non-repeating peers—and are not statistically significantly outperforming peers who repeated an earlier grade—does one conclude that repetition was ineffective and should be abolished? Or does one argue that more repetition is necessary in order for learners to catch up? In the absence of a counterfactual, it is difficult to say which view is correct, but—if this section's findings are correct and can be confirmed with causal research—it could be argued that the current 'once per phase' repetition policy is imposing arbitrary guidelines for when learners are allowed to repeat. In such a scenario it is probable that repeaters are only avoiding further repetition because official policy disallows it, not because repetition is facilitating sufficient catch-up.

[33] In the Western Cape some Quintile 4 and 5 schools do not charge fees, hence the addition of fee-charging status as a control variable.

4.3 Repetition's associations with Grade 6 outcomes

The associations between being overage in Grade 3 and repeating between Grade 3 and 6 will now be considered. For reference, Table 7 provides a summary of the main variables used in the previous (Table 6) and forthcoming (Table 8 and Table 9) regression analyses.

Table 7: Summary statistics for main achievement and repetition variables

	mean	sd	n
Gr3 language (%)	42.35	21.43	48,135
Gr3 mathematics (%)	53.82	21.17	48,135
Gr6 language (%)	46.80	18.12	48,135
Gr6 mathematics (%)	52.16	19.16	48,135
Gr9 language (%)	52.69	16.09	48,135
Gr9 mathematics (%)	36.06	21.97	48,135
Overage in 2011	0.1937	0.40	48,135
Repeated Gr3 in 2011	0.0354	0.18	48,092
Rep between Gr3 and 6	0.1485	0.36	48,135
- No rep Gr3-6	0.8515	0.36	48,135
- Repeated Gr3 in 2012	0.0343	0.18	48,135
- Rep in Gr4/5	0.0928	0.29	48,135
- Rep in Gr6	0.0190	0.14	48,135
Rep between Gr6 and 9	0.0994	0.30	48,135
- No rep Gr6-9	0.9006	0.30	48,135
- Repeats once Gr6-9	0.0971	0.30	48,135
- Repeats twice Gr6-9	0.0023	0.05	48,135

Note: groups such as learners who repeated twice between Grades 3 and 6, or learners who were missing a grade in 2012 are not shown under any of the "rep between Gr3 and 6" categories due to their negligible size.

When only overage controls are added into the regression—as per regression (4) in Table 8—learners who were overage at the start of the study were more likely to repeat by Grade 6. Learners who were already repeating Grade 3 in 2011 were associated with a reduced probability of repetition compared to overage learners who were in Grade 3 for the first time in 2011. But both groups of learners were more likely to repeat by Grade 6 compared to learners who were the correct age-for-grade in 2011.

When other controls—Grade 3 achievement, as well as school and learner variables—are added (regression (5), Table 8), the size of the coefficient on overage status in 2011 decreases, but it remains positively associated with repetition, indicating that overage learners were still more likely to repeat again by Grade 6. Other associations remain as expected; for example, learners with higher achievement in mathematics and language in Grade 3 were less likely to repeat between Grade 3 and 6. This adds further support for the argument that repetition does not appear to be a lottery.

Regressions (6)-(9) in Table 8 illustrate the importance of learners' previous achievement when trying to determine the 'effect' of repetition on learners' future achievement. In regressions (6) and (8), language and mathematics achievement in Grade 6 are predicted using only a learner's repeater status—namely, being overage in 2011 and/or having repeated at some stage between Grade 3 and 6. Although the models have relatively low explanatory power (13.55% in language and 16.52% in mathematics), the coefficients on any form of repetition are large, negative, and significant. A learner who repeated in Grade 1 and again in Grade 4 is associated with nearly 30 percentage point lower achievement in Grade 6 mathematics compared to learners who progressed on-track from Grade 1 to Grade 6 with no repetition.

Regressions (7) and (9) subsequently include learners' prior achievement, along with other learner and school controls. It can be seen that—compared to the regressions where these controls were excluded—the coefficients on the repetition variables decrease substantially in (absolute) size, and some even become insignificant. This highlights how much omitted variable bias exists when no form of learner ability is included in models, which in turn overestimates the negative effects of repetition. In both subjects, the coefficient associated with progressing on-track to Grade 3 and then repeating Grade 3 in 2012 is insignificant, indicating that these learners may perform no differently from learners who had the same Grade 3 marks but didn't repeat before Grade 6. Since there are presumably other factors playing into repetition decisions, it could be hypothesized that these learners 'caught up' to other non-repeating learners of similar ability levels—or, the pessimistic interpretation could be that these learners did not increase their achievement through an additional year of schooling, and would have achieved the same result if they had reached Grade 6 a year earlier.

All other types of repetition (Grade 4 or 5 repetition; Grade 6 repetition; or repetition prior to Grade 3, proxied by the overage variable) were negatively associated with language and mathematics achievement. And learners who had repeated twice by Grade 6 were associated with much worse performance in Grade 6, despite having spent an additional two years in school. This suggests that either such repetition is harmful to learners, or else these results are confounded by factors outside of the model which affect both repetition decisions and learners' achievement[34].

[34] For example, if Grade 3 achievement does not fully capture learners' academic ability, the negative estimates on repetition coefficients could be indicating the lower ability of repeaters. Without a counterfactual, it is impossible to know if these estimated negative effects are attributable to repetition itself or to confounding factors.

Table 8: Grade 6 outcomes predicted by regressions

Outcomes: → Control variables: ↓	(4) Repeats in Grade 3 to 6	(5) Repeats in Grade 3 to 6	(6) Gr6 language mark	(7) Gr6 language mark	(8) Gr6 mathematics mark	(9) Gr6 mathematics mark
Gr 3 repeater (2012)			-11.705***	-0.328	-15.594***	-0.151
			(0.588)	(0.414)	(0.646)	(0.437)
Gr 4/5 repeater			-16.409***	-4.362***	-19.252***	-4.159***
			(0.501)	(0.318)	(0.533)	(0.335)
Gr 6 repeater			-12.366***	-2.403***	-15.997***	-4.594***
			(0.684)	(0.482)	(0.691)	(0.479)
Gr 3 Lang mark		-0.002***		0.453***		
		(0.000)		(0.010)		
Gr 3 Math mark		-0.006***				0.516***
		(0.000)				(0.014)
Overage (2011)	0.085***	0.013**	-7.639***	-3.772***	-8.826***	-4.066***
	(0.007)	(0.006)	(0.313)	(0.174)	(0.327)	(0.189)
Repeating Gr 3 (2011)[35]	-0.039***	-0.053***	-5.984***	-3.075***	-4.370***	-2.152***
	(0.011)	(0.010)	(0.472)	(0.307)	(0.488)	(0.315)
Constant	0.134***	0.610***	50.729***	27.582***	56.731***	25.707***
	(0.004)	(0.017)	(0.584)	(0.675)	(0.590)	(1.076)
Observations	48,135	48,135	48,135	48,135	48,135	48,135
R-squared	0.008	0.195	0.135	0.586	0.165	0.636
Controls:						
School		X		X		X
Learner		X		X		X

Robust standard errors (clustered at Gr6 school level) shown in parentheses. The reference category is learners who are neither overage in 2011 nor repeating Grade 3 in 2011. School controls include school quintile[36] and fee-charging status (Grade 3), as well as LOLT switch status and learners' Grade 3 within-school ranking. Learner controls include gender and race, as well as missing 2011 and Gr3-6 repeater status.
*** p<0.01, ** p<0.05, * p<0.1

[35] 'Repeating Gr 3 (2011)' is used to be consistent with Table 6's terminology, and it refers to learners in the 2011 Grade 3 cohort who were already repeating Grade 3 in 2011.
[36] For regressions (4) and (5), Grade 3 school quintile is used, while regressions (6)-(9) use learners' Grade 6 school quintile due to the outcomes of interest (Grade 6 achievement measures).

4.4 Repetition's associations with Grade 9 outcomes

What was done in Section 4.3 is now replicated to explore repetition's relationships with Grade 9 outcomes—the outcomes being whether learners repeated between Grade 6 and 9, and also their mathematics and language achievement in Grade 9. Repetition between Grade 3 and 6 was added as a predictor of these outcomes, and repetition in- or prior to Grade 3 was still included in the model. Regression (10) in Table 9 models the probability of learners repeating at least once between Grade 6 and 9, using only prior repetition as predictors. It can be seen that any form of repetition was associated with an increased probability of repeating again before Grade 9, while learners who had repeated twice already by Grade 6 were at an even higher risk of further repetition by Grade 9. When controls were added (see regression (11) in Table 9), the size of the repetition coefficients decrease, which once again highlights the importance of controlling for prior achievement. But despite the decrease, most coefficients remain positive, indicating a higher probability of repetition still exists for learners who have already repeated, compared to those learners who reached Grade 9 on-track. The only exception appears to be for learners who repeated Grade 3 at the end of 2011. These learners were slightly less likely to repeat between Grades 6 and 9.

When predicting Grade 9 language and mathematics achievement by learners' prior repetition alone (regressions (12) and (14) in Table 9), similar results arise to those found for Grade 6—with no other controls, any repetition in previous grades is associated with lower Grade 9 achievement, regardless of the timing of the repetition. However, when other controls (most importantly, achievement) are included, the estimated coefficients' absolute magnitudes decrease substantially.

Regression (13) models Grade 9 language achievement and includes controls for Grade 3 and 6 language achievement, as well as other school and learner controls. With the inclusion of additional control variables, the coefficients on the repetition variables decrease in size compared to regression (12), becoming less negative. Unlike for Grade 6 language achievement, repeating Grade 3 in 2012 is no longer statistically insignificant, but instead it takes on a negative coefficient like the other repetition variables. The only statistically insignificant coefficient is that of learners who repeated twice between Grade 6 and 9, but this was likely a result of the small number of learners (110) in this group.

Regression (15) produces some surprising results. For all other grades and subjects, the results have been fairly consistent: repetition appears to have very negative effects on achievement when only prior repetition is considered, but these effects are reduced (but still negative) once achievement and other controls are included. For Grade 9 mathematics achievement, the first part holds true—i.e. very negative effects when only repetition is included as predictors—but after including earlier achievement, any repetition after 2011 (Grade 3 onwards) becomes positively associated with Grade 9 achievement. Repetition prior to 2011 remains negatively associated with Grade 9 achievement, but it is not immediately clear why all other repetition effects would be positive when they were negative for Grade 9 language, and also for Grade 6 mathematics.

Table 9: Grade 9 outcomes predicted by regressions

Outcomes: →	(10)	(11)	(12)	(13)	(14)	(15)
Control variables: ↓	Gr6-9 repeater	Gr6-9 repeater	Gr 9 lang mark	Gr 9 lang mark	Gr 9 math mark	Gr 9 math mark
Gr 3 repeater (2012)	0.057***	-0.026***	-10.371***	-1.971***	-11.844***	2.736***
	(0.010)	(0.010)	(0.560)	(0.302)	(0.912)	(0.415)
Gr 4/5 repeater	0.178***	0.073***	-13.800***	-3.887***	-11.269***	4.159***
	(0.010)	(0.010)	(0.467)	(0.213)	(0.799)	(0.350)
Gr 6 repeater	0.113***	0.028**	-12.687***	-4.724***	-12.093***	0.901*
	(0.015)	(0.014)	(0.622)	(0.364)	(0.888)	(0.490)
Repeats once Gr6-9			-13.211***	-3.783***	-9.982***	2.480***
			(0.456)	(0.234)	(0.717)	(0.330)
Repeats twice Gr6-9			-13.577***	-1.907	-7.969***	7.434***
			(1.781)	(1.290)	(1.454)	(1.056)
Gr 3 lang mark		0.000***		0.132***		
		(0.000)		(0.006)		
Gr 6 lang mark		-0.003***		0.474***		
		(0.000)		(0.006)		
Gr 3 math mark		-0.001***				0.208***
		(0.000)				(0.016)
Gr 6 math mark		-0.002***				0.560***
		(0.000)				(0.018)
Overage (2011)	0.089***	0.042***	-6.640***	-2.408***	-9.124***	-2.815***
	(0.006)	(0.005)	(0.300)	(0.128)	(0.496)	(0.200)
Repeating Gr 3 (2011)	0.030***	0.005	-4.774***	-1.406***	-6.019***	-2.152***
	(0.010)	(0.010)	(0.424)	(0.238)	(0.590)	(0.310)
Constant	0.059***	0.395***	57.386***	26.099***	40.763***	-3.013*
	(0.004)	(0.019)	(0.628)	(0.610)	(1.146)	(1.758)
Observations	48,135	48,135	48,135	48,135	48,135	48,135
R-squared	0.063	0.146	0.226	0.685	0.109	0.610
Controls:						
School		X		X		X
Learner		X		X		X

Robust standard errors (clustered at Gr9 school level) shown in parentheses. The reference category is learners who are on-track at every stage of their school career. School controls include school quintile (Grade 6 in regressions (10) and (11), and Grade 9 in the remainder) and fee-charging status (Grade 3 only), as well as LOLT switch status and learners' Grade 3 within-school ranking. Learner controls include gender and race, as well as missing 2011 and Grade 3-6 repeater status.

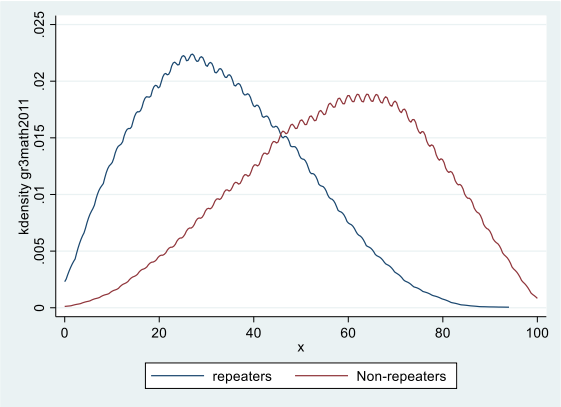
*** p<0.01, ** p<0.05, * p<0.1

The explanatory variable(s) responsible for the sign change between regressions (14) and (15) are Grade 3 and Grade 6 mathematics achievement, although including even one of these variables is enough to change the sign of the repetition coefficients. One explanation for this would be that somehow learners who repeated between Grades 3 and 6 were able to use the knowledge they received through repetition more effectively in Grade 9 than they were in Grade 6, or that learners repeating between Grades 6 and 9 were exposed to better remediation during repetition and outperformed learners in Grade 9 who hadn't repeated.

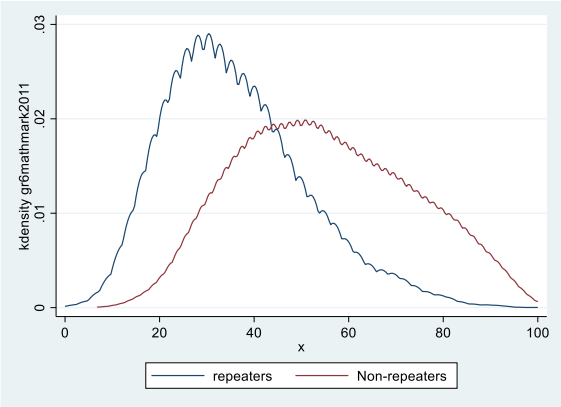
Another explanation is that this result is driven by floor effects when it comes to Grade 9 mathematics achievement. Figure 7(a)-(c) shows the mathematics achievement distributions at a Grade 3, 6, and 9 level of learners who repeated between Grade 3 and 6, compared to learners who didn't repeat during those grades. By Grade 9, achievement for both repeaters and non-repeaters was very poor. And while achievement for repeaters was already poor in Grade 3 and 6, there was a drastic decrease in the performance of non-repeaters by Grade 9.

Figure 7: Mathematics achievement distributions for Grade 3-6 repeaters vs non-repeaters at various grades

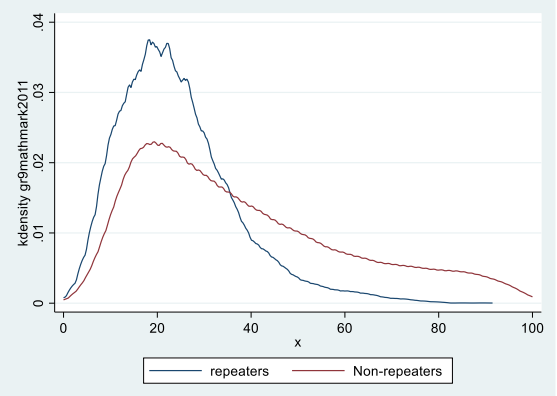
(a) Grade 3



(b) Grade 6



(c) Grade 9



Source: Own calculations using a balanced panel of learners from CEMIS 2011-2019. 'Repeaters' refers to learners who repeated a grade between Grades 3 and 6, while 'non-repeaters' refers to learners who did not repeat in those specific grades (but some may have repeated prior to Grade 3).

The regression results (regression (15) in Table 9) may therefore be explained by the fact that mathematics achievement for all learners dropped by Grade 9, but the decrease was greatest for the non-repeating learners. This would mean that learners who repeated between Grade 3 and 6 performed relatively better in Grade 9, simply because they didn't have as much scope for even lower performance, being low performers already. This would not have occurred in language, where overall achievement improved from Grade 3 to 9.

A third possible explanation for the positive coefficients on the repetition variables could be that the Grade 9 tests in 2019 were easier than previous years' tests (this possibility was discussed in Section 3.1 regarding Figure 2). A learner in the 2011 Grade 3 cohort would write the Grade 9 test in 2019 if they repeated twice between Grade 3 and 9. So, if the 2019 tests were easier, it would be expected that repeaters would have relatively higher achievement than learners who reached Grade 9 earlier and wrote the tests in 2017 or 2018.

5. Discussion and conclusion

While the results presented in this paper are not causal, they nevertheless provide insight into the associations between repetition and future outcomes, and also demonstrate the omitted variable bias that exists when repetition is studied without controlling for prior achievement[37].

On the second point, it was shown that the inclusion of learners' initial Grade 3 achievement greatly reduced the size of the negative coefficients that were estimated for repetition and overage variables, when outcomes such as further repetition or achievement in Grades 6 and 9 were modelled. The implication is that omitting prior achievement (or learner ability) will greatly overstate the negative—or understate the positive—effects of repetition. This is consistent with local (Wills, 2023) and international findings (Valbuena et al., 2021) and provides important framing for the results of much of the existing South African literature, which has not usually had longitudinal data available to overcome this limitation.

Regarding the actual impact of repetition on future repetition and achievement, the results of this study suggest that current repetition practices are not necessarily facilitating sufficient 'catch up' for academically weak learners, and these learners continue to lag behind in progression and achievement. Most of the estimated coefficients for repetition variables were negative, but they are not enough to conclude that repetition is detrimental to learners—it is possible that associations would have been more negative in the absence of repetition, or alternatively that unobserved characteristics may be causing the negative results[38]. Nevertheless, there is even less evidence from this paper's results to suggest

[37] In this instance, prior achievement proxies for learners' academic ability, which is correlated with grade repetition—assuming that repetition correctly targets academically weaker learners.
[38] This form of omitted variable bias would be similar to what happens when prior achievement is excluded from the model and negative coefficients on repetition are far greater—since repeaters are more likely to be low achievers, if low ability isn't controlled for, its negative effects are wrongly attributed to repetition.

that repetition is beneficial to learners, which does highlight the importance of further research into repetition's true impacts in order to inform repetition policy.

The results also allude to the fact that not all repetition is 'equal'. But once again, there is no consensus on results: the persistently negative coefficient on being overage in Grade 3 in 2011 suggests that early repetition is harmful, but this is contrasted by the coefficient on Grade 3 repetition being insignificant or of smallest magnitude in the Grade 6 and 9 achievement regressions (which would suggest that earlier repetition is beneficial)—although both these findings are subject to limitations[39]. On the whole, the associations between repetition and Grade 6 and 9 outcomes did appear to worsen the later repetition was experienced past Grade 3, which suggests there is merit in the argument that repetition is generally more beneficial (or less harmful) the earlier it is experienced (Wills, 2023; Valbuena et al., 2021). But this is another area requiring more research in the South African context.

The most consistent finding through this paper is the evidence against repetition being a lottery. Even though the systemic test results are not used to inform schools' repetition decisions, repetition did align well—albeit imperfectly—with learners' achievement on the systemic tests. Specifically, lower achievement was found to be associated with higher probability of repetition in the year of the systemic tests and also in future grades. This likely indicates that schools' internal assessments (SBA) are accurately measuring learners' knowledge and allowing schools to make informed decisions about which learners should repeat. There are still significant differences in achievement and repetition across schools[40]—and low overall system performance complicates decisions on which low performers should repeat—but it is encouraging that repetition decisions do not, overall, appear to be made at random. These results also point to a strengthening of school-based assessment practices over time, since previous research identified poor correlation between repetition and systemic test results (Gustafsson & Taylor, 2017).

It is important to note that such findings relate to the Western Cape and may not be true in other provinces. It has been well documented that the lack of external assessments in South Africa has resulted in unreliable standards for SBA, particularly in lower quintiles of the school system (Van der Berg & Shepherd, 2015; Van Wyk et al., 2017; Von Fintel & Van der Berg, 2017; Shepherd, 2012) and in primary school[41]. Significant effort has gone into making the Western Cape systemic tests a credible and reliable low-stakes feedback

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[39] These are limitations posed by the data. The 'overage in Grade 3' variable assumes learners who are overage are repeaters and not simply late school entrants, which may confound results. The data was not long enough to track repetition patterns before Grade 3 without substantial attrition. Meanwhile, the Grade 3 repetition results may be an artefact of the analysis—Grade 3 achievement is used as a control variable in later regressions, but Grade 3 repeaters at the end of 2011 were given the opportunity to improve on their Grade 3 mark in the following year, so their 'Grade 3 achievement' is not the final mark they leave Grade 3 with, and the comparison to learners with similar marks may be unfair. But it is not possible to use any other grades' results as a proxy for academic ability in the Grade 6 and 9 regressions, as the systemic tests only occur at Grades 3, 6 and 9 level.

[40] For example, achievement levels, repetition rates, and the achievement of repeaters (compared to non-repeaters) differ across Quintile 1 to 4 schools and Quintile 5 schools.

[41] The annual National Senior Certificate (NSC) examinations provide an indication of the appropriate standard that must be reached by the end of high school, which can be used to guide assessment in the preceding grades. But in primary school, no annual national examination exists that provides regular feedback on the appropriate level of assessment for lower grades.

mechanism (Gustafsson & Taylor, 2017), and the improvement in the correlation between repetition and systemic test results over time[42] likely indicates that such efforts have succeeded in strengthening the province's school-based assessment practices. For the country's other eight provinces, it is possible that SBA remains weak and highly variable across schools—and if this is the case, the country's repetition decisions may be more random than the present analysis suggests.

It is therefore important for more research to be conducted on repetition practices in other provinces before the 'repetition is a lottery' argument can be fully dismissed. First, it should be investigated how well repetition decisions align with school-based assessment results and official repetition policy. Subsequently, the reliability of assessment standards across schools should be investigated, particularly in lower grades where external assessments are mostly absent. Alongside this research, it would be useful if SBA data were used to explore the specific reasons why learners repeat. Such information would inform appropriate policy response or educational interventions—for instance, subject-specific intervention may be appropriate if commonalities are found across repeaters' failed subjects, but if it is instead found that much of the repetition in later grades is from very low-achieving learners who repeated already, revising the 'once per phase' repetition policy may be more effective.

This paper highlights many of the intricacies of repetition research, and it is important for researchers and policymakers to be aware of the potential limitations when conducting their own research or interpreting studies' results. Appropriate data provides substantial support for any research efforts, and the importance in repetition research of longitudinal data with accompanying achievement data cannot be overstated. Ideally, more frequent testing and achievement data is needed that can be compared across grades within the same year, as such data would provide more opportunity to discover repetition's causal effects. Wills (2023) provides an example of what can be done in the South African context with such data, and there are a number of ways (see Chapter 5 in Selkirk, 2025) in which South Africa's existing (and future) education data can be improved to facilitate more repetition research. Nevertheless, it is hoped that the current study provides a starting point for future studies into the effects and effectiveness of repetition in South Africa, and that this work will encourage more research in this area.

[42] In Gustafsson and Taylor's report, there is a quote from an unpublished 2015 study (which could not be accessed at the time of writing) which states that the systemic tests are poorly correlated with repetition, which likely indicates weak school-level assessment practices (Gustafsson & Taylor, 2017:30). In contrast, the present analysis showed good correlation between systemic test results and repetition.

6. References

Ahmad, A. (2021). Grade Retention: Is it a Failed Practice?. *Academy of Education and Social Sciences Review, 1*(1): 01-13.

Allen, C., Chen, Q., Willson, V., & Hughes, J. (2009). Quality of research design moderates effects of grade retention on achievement: A meta-analytic, multilevel analysis. *Educational evaluation and policy analysis, 31*(4): 480-499.

Andre, P. (2009). *Is grade repetition one of the causes of early school dropout? Evidence from Senegalese primary schools.* Munich: Munich Personal RePEc Archive Working Paper No. 25665.

Bashir, S., Lockheed, M., Ninan, E., & Tan, J. (2018). Facing Forward: Schooling for Learning in Africa. Washington: World Bank.

Belot, M., & Vandenberghe, V. (2014). Evaluating the 'threat' effects of grade repetition: exploiting the 2001 reform by the French-Speaking Community of Belgium. *Education Economics, 22*(1): 73-89.

Benhenda, A., & Grenet, J. (2015). How much does grade repetition in French primary and secondary schools cost? *Notes IPP,* (17).

Böhmer, B. (forthcoming). *Understanding the Roles of Age, Gender, and Grade R Attendance in Academic Progression and Performance from Grades 1 to 4.* Stellenbosch: Stellenbosch University.

Borghesan, E., Reis, H., & Todd, P. E. (2022). *Learning through repetition? A dynamic evaluation of grade retention in Portugal. PIER Working Paper 22-030*. Philadelphia: University of Pennsylvania.

Branson, N., & Lam, D. (2010). Education inequality in South Africa: Evidence from the National Income Dynamics Study. *Journal of Studies in Economics and Econometrics, 34*(3): 85-109.

Branson, N., Hofmeyr, C., & Lam, D. (2013). *Progress through school and the determinants of dropout in South Africa. A Southern Africa Labour and Development Research Unit Working Paper.* Cape Town: SALDRU, University of Cape Town.

Brophy, J. (2006). *Grade repetition* (Vol. 6). Paris: International Institute for Educational Planning.

Buckmaster, J., Urick, A., & Ford, T. (2024). A quasi-experimental, longitudinal study of grade retention on language outcomes for english language learners. *Journal of Education for Students Placed at Risk (JESPAR)*, *29*(4): 332-362

Cabrera-Hernandez, F. (2022). Leave them kids alone! The effects of abolishing grade repetition: evidence from a nationwide reform. *Education Economics, 30*(4): 339-355.

Clayton, R. (2025). *The impact of early grade repetition on test scores: Evidence from a regression discontinuity design in South Africa. RESEP Working Paper no. 06/25*. Stellenbosch, Stellenbosch University.

Crouch, L. (2005). *Disappearing schoolchildren or data misunderstandings? Dropout phenomena in South Africa*. Research Triangle Institute.

Department of Education. (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: Department of Education.

Department of Basic Education. (2006). *The elusive drop-out rate (and some related matters).* Pretoria: Department of Basic Education.

Department of Basic Education. (2010). *The status of the Language of Learning and Teaching (LOLT) in South African public schools: A quantitative overview.* Pretoria: Department of Basic Education.

Department of Basic Education. (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: Department of Basic Education.

Department of Basic Education. (2023). *Grade promotion, repetition and dropping out 2018 to 2021* (Data Report). Pretoria: Department of Basic Education.

Diris, R. (2017). Don't hold back? The effect of grade retention on student achievement. *Education Finance and Policy, 12*(3): 312-341.

Dziurzynski, K., & Duda, E. (2018). Grade repetition as a consequence of school failures. *Journal of Modern Science, 3*(38): 133-148.

Eren, O., Lovenheim, M., & Mocan, H. (2022). The effect of grade retention on adult crime: Evidence from a test-based promotion policy. *Journal of Labor Economics, 40*(2): 361-395.

Fernández-Alonso, R., Postigo, Á., Suárez-Álvarez, J., & Muñiz, J. (2025). Longitudinal evidence on the potential adverse impact of grade repetition on self-concept and grit. *Learning and Instruction, 99*, 102172.

Ferrao, M. E. (2022). The evaluation of students' progression in lower secondary education in Brazil: Exploring the path for equity. *Studies in Educational Evaluation, 75*, 101220.

Fiske, E., Rwehera, M., Chu, S., & Mputu, H. (1998). Wasted Opportunities: When schools fail, repetition and drop-out in primary schools. Paris: UNESCO.

Fourie, M., & Schlebusch, G. (2021). Exploring grade repetition in South African schools and its relation to learning and cognition. *International Journal of Innovation, Creativity, and Change, 15*(11): 177-194.

Giano, Z., Williams, A., & Becnel, J. (2022). Grade retention and school dropout: Comparing specific grade levels across childhood and early adolescence. *The Journal of Early Adolescence, 42*(1): 33-57.

Glick, P., & Sahn, D. (2010). Early academic performance, grade repetition, and school attainment in Senegal: A panel data analysis. *The World Bank Economic Review, 24*(1): 93-120.

González-Nuevo, C., Postigo, Á., García-Cueto, E., Menéndez-Aller, Á., Muñiz, J., Cuesta, M., Álvarez-Diaz, M., & Fernández-Alonso, R. (2023). Grade retention impact on academic self-concept: A longitudinal perspective. *School Mental Health, 15*(2): 600-610.

Goos, M., Pipa, J., & Peixoto, F. (2021). Effectiveness of grade retention: A systematic review and meta-analysis. *Educational Research Review, 34*(2021): 100401.

Greenburg, J., & Winsler, A. (2023). Predictors and outcomes of being retained twice in elementary school. *Early Childhood Research Quarterly, 65:* 227-240.

Gustafsson, M. (2011). *The when and how of leaving school: The policy implications of new evidence on secondary schooling in South Africa. Stellenbosch University Working Papers 09/2011.* Stellenbosch University.

Gustafsson, M. & Taylor, N. (2017). Generation and use of data in the Western Cape in the delivery of basic education. *Report for National Treasury's Financial Management Improvement Programme (FMIP) III.* Pretoria: Department of Basic Education.

Hattie, J. (2008). Visible learning: A synthesis of over 800 meta-analyses relating to achievement. London: Routledge.

Hill, A. (2014). The costs of failure: Negative externalities in high school course repetition. *Economics of Education Review, 43*(2014): 91-105.

Hwang, N., & Koedel, C. (2025). Helping or hurting: The effects of retention in the third grade on student outcomes. *Educational Evaluation and Policy Analysis, 47*(1): 65-88.

Jacob, B., & Lefgren, L. (2009). The effect of grade retention on high school completion. *American Economic Journal: Applied Economics, 1*(3): 33-58.

Jimerson, S. (2001a). Meta-analysis of grade retention research: implications for practice in the 21st century. *School Psychology Review, 30*(3): 420-437.

Jimerson, S. (2001b). A synthesis of grade retention research: Looking backward and moving forward. *The California School Psychologist, 6*: 47-59.

Jimerson, S., Anderson, G., & Whipple, A. (2002). Winning the battle and losing the war: Examining the relation between grade retention and dropping out of high school. *Psychology in the Schools, 39*(4): 441-457.

Kabay, S. (2016). Grade repetition and primary school dropout in Uganda. *Harvard Educational Review, 86*(4): 580-606.

Kika, J., & Kotze, J. (2018). *Unpacking Grade Repetition Patterns in Light of the Progression Policy in the Further Education and Training Phase.* Pretoria: Department of Basic Education.

Koppensteiner, M. (2014). Automatic grade promotion and student performance: Evidence from Brazil. *Journal of Development Economics, 107*: 277-290.

Kyereko, D., Smith, W., Hlovor, I., & Keney, G. (2022). Understanding grade repetition from the perspectives of teachers and principals in basic schools in Ghana. *International Journal of Educational Development, 93*(2023): 102633.

Kyereko, D., Smith, W., Hlovor, I., & Okai, R. (2025). Beyond the" Repeater" Label: Amplifying student perspectives on grade repetition and protective factors in Ghana. *International Journal of Educational Research, 133*, 102714.

Lam, D., Ardington, C., & Leibbrandt, M. (2011). Schooling as a lottery: Racial differences in school advancement in urban South Africa. *Journal of Development Economics, 95*(2): 121-136.

Larsen, M., & Valant, J. (2024). The long-term effects of grade retention: Evidence on persistence through high school and college. *Journal of Research on Educational Effectiveness, 17*(4): 615-646.

Lavy, V., Silva, O., & Weinhardt, F. (2012). The good, the bad, and the average: Evidence on ability peer effects in schools. *Journal of Labor Economics, 30*(2): 367–414.

León, J., & Martínez-Abad, F. (2025). The effect of grade retention on performance in Spanish students: a propensity score matching approach. *Large-scale Assessments in Education, 13*(1): 8.

Lopez-Agudo, L., Latorre, C., & Marcenaro-Gutierrez, O. (2024). Grade retention in Spain: the right way?. *Educational Assessment, Evaluation and Accountability, 36*(1): 53-74.

Lorence, J. (2014). Third-grade retention and reading achievement in Texas: A nine year panel study. *Social Science Research, 48*: 1-19.

Manacorda, M. (2012). The cost of grade retention. *The Review of Economics and Statistics,* 94(2): 596-606.

Mariano, L., Martorell, P., & Berglund, T. (2025). The effects of grade retention on high school outcomes: Evidence from New York City schools. *Journal of Research on Educational Effectiveness, 18*(1): 1-31.

Mathys, C., Véronneau, M., & Lecocq, A. (2017). Grade retention at the transition to secondary school: Using propensity score matching to identify consequences on psychosocial adjustment. *The Journal of Early Adolescence, 39*(1): 97-133.

Moulin, L., & Sari, F. (2025). The long-term effects of grade retention: Empirical analysis on French data.

Paul, R., & Rashmi. (2021). Is educational wellbeing associated with grade repetition and school dropout rates among Indian students? Evidence from a panel study. *Vienna Yearbook of Population Research, 19*: 503-543.

Pipa, J., & Peixoto, F. (2022). One step back or one step forward? Effects of grade retention and school retention composition on Portuguese students' psychosocial outcomes using PISA 2018 data. *Sustainability, 14*(24): 16573.

Pipa, J., Daniel, J. R., & Peixoto, F. (2024). Effects of grade retention in lower secondary education on students' self-concept, self-esteem, goal orientations, and school career. *Psychology in the Schools, 61*(5): 1897-1921.

Pipa, J., Pepels, J., Gaitas, S., Goos, M., Peixoto, F., Belfi, B., Meissner, F., & Klapproth, F. (2025). *Summary of predictors and effects of grade retention in Europe*. Maastricht University Press.

Resende, M., & Petterini, F. (2021). Simulating the effects of automatic promotion on early dropouts for both poor and rich students: an application to Brazilian data. *Applied Economics, 53*(9): 1039-1051.

Roderick, M. (1994). Grade retention and school dropout: Investigating the association. *American Educational Research Journal, 31*(4): 729-759.

Rodríguez-Rodríguez, D. (2022). Grade Retention, Academic Performance and Motivational Variables in Compulsory Secondary Education: A Longitudinal Study. *Psicothema, 34*(3).

Rumberger, R., & Lim, S. (2008). *Why students drop out of school: A review of 25 years of research. California Dropout Research Project Report #15*. Santa Barbara: University of California.

Salza, G. (2022). Equally performing, unfairly evaluated: The social determinants of grade repetition in Italian high schools. *Research in Social Stratification and Mobility, 77*, 100676.

Sánchez, L. (2025). La repetición de curso en la Educación Secundaria Obligatoria. *Márgenes, Revista de Educación de la Universidad de Málaga, 6*(2): 183-202.

Schmidt, W., & Prawat, R. (2006). Curriculum coherence and national control of education: Issue or non-issue? *Journal of Curriculum Studies*, *38*(6): 641–658.

Serrão, A. (2021, July). The Impact of Grade Repetition in Student Performance in Reading Literacy. *In Conference Proceedings. The Future of Education 2021.*

Selkirk, R. (2025). Grade Repetition in South Africa: Impacts on Achievement, Flows, and School Completion. Doctoral dissertation. Stellenbosch: Stellenbosch University. [online: https://scholar.sun.ac.za/handle/10019.1/134815]

Shepherd, D. (2012). School performance: Aspects of performance in the matriculation examinations. *Public Expenditure Analysis for the Department of Basic Education, Report 9.* Stellenbosch: Oxford Policy Management Africa.

Simkins, C. (2013). *Performance in the South African educational system: What do we know?* Johannesburg: CDE.

Soler, S., González, J., & Alvarado, L. (2021). Should students repeat a school year? The case of grade 9 students in Colombia. *International Journal of Educational Research, 110*, 101886.

Tafreschi, D., & Thiemann, P. (2016). Doing it twice, getting it right? The effects of grade retention and course repetition in higher education. *Economics of Education Review, 55*(2016): 198-219.

Ter Meulen, S. (2023). *Long-term effects of grade retention* (No. 10212). CESifo Working Paper.

Valbuena, J., Mediavilla, M., Choi, A., & Gil, M. (2021). The effects of grade retention policies: A literature review of empirical studies applying causal inference. *Journal of Economic Surveys*, *35*(2): 408-451.

Van Canegem, T., Van Houtte, M., & Demanet, J. (2021). Grade retention and academic self-concept: A multilevel analysis of the effects of schools' retention composition. *British Educational Research Journal, 47*(5): 1340-1360.

Van Canegem, T., Van Houtte, M., & Demanet, J. (2022). Grade retention: A pathway to solitude? A cross-national multilevel analysis of the effects of being retained on students' sense of belonging. *Comparative Education Review, 66*(4): 664-687.

Van Canegem, T., Van Houtte, M., & Demanet, J. (2024a). It's a hard-knock life for us: a multilevel analysis on the association between grade retention and being bullied in 25 countries. *Research Papers in Education, 39*(2): 181-205.

Van Canegem, T., Vandelannote, I., Van Houtte, M., & Demanet, J. (2024b). Retained for life: A longitudinal study on the effects of grade retention in secondary education on higher education enrollment and self-efficacy. *Social Psychology of Education, 27*(4): 1673-1703.

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

Van der Berg, S., Wills, G., Selkirk, R., Adams, C., & Van Wyk, C. (2019a). *The cost of repetition in South Africa. Stellenbosch Economic Working Papers 13/2019.* Stellenbosch University.

Van der Berg, S., Van Wyk, C., Selkirk, R., Rich, K., & Deghaye, N. (2019b). *The promise of SA-SAMS & DDD data for tracking progression, repetition and drop-out. Stellenbosch Economic Working Papers 17/2019.* Stellenbosch University.

Van der Berg, S., Van Wyk, C., Selkirk, R., & Hofmeyr, H. (2021). *Learner flows through schools: Using high quality administrative data to understand system performance*. *RESEP research report*. Stellenbosch, Stellenbosch University.

Van der Berg, S., Van Wyk, C., Gustafsson, M., Meyer, H., Chari, A., Van Biljon, C., Lilenstein, A., Selkirk, R., & McCallum, J. (2023a). *What rich new education data can tell us. RESEP research report*. Stellenbosch: Stellenbosch University.

Van der Berg, S., Van Wyk, C., Selkirk, R., Meyer, H., Hofmeyr, H., Moses, E., & Gondwe, J. (2023b). *Educational issues and the impact of Covid-19: What the education data reveal. RESEP research report*. Stellenbosch: Stellenbosch University.

Van der Berg, S., Van Wyk, C., Gustafsson, M., Clayton, R., Böhmer, B., Meyer, H., Qvist, J., Mkhombo, T., Euston-Brown, A., Claassen, J., & De Gouveia, D. (2024). *What SA-SAMS and LURITS data tells us about education. New insights from administrative data. RESEP research report.* Stellenbosch: Stellenbosch University.

Van der Berg, S., Hofmeyr, H., Van Wyk, C., Böhmer, B., Clayton, R., Selkirk, R., Moses, M., Qvist, J., De Gouveia, D. & Geyer, C. (2025). *Learning pathways and system performance in South African schools. Insights from administrative data. RESEP research report.* Stellenbosch: Stellenbosch University.

Van Wyk, C. (2021). *Learner flow through patterns in the Western Cape using CEMIS datasets from 2007 to 2019: A longitudinal cohort analysis. Stellenbosch Economic Working Papers 01/2021.* Stellenbosch: Stellenbosch University.

Van Wyk, C., Gondwe, A., & De Villiers, P. (2017). *Learner flow through patterns in the Western Cape using CEMIS datasets from 2007 to 2014: A longitudinal cohort analysis.* Stellenbosch: Stellenbosch University, Department of Economics.

Von Fintel, M., & Van der Berg, S. (2017). *What a difference a good school makes! Persistence in academic performance and the impact of school quality.* Stellenbosch: Stellenbosch University, Department of Economics.

Walton, E. (2018). Teacher beliefs about grade repetition: An exploratory South African study. *Citizenship Teaching & Learning, 13*(1): 45-60.

Western Cape Education Department. (2016). *MEC Debbie Schafer: 2015 Systemic Test Results.* WCED. [online: https://www.gov.za/speeches/wced-pleased-2015-systemic-test-results-27-jan-2016-0000]

Western Cape Education Department. (2019). *2018 Systemic Test results show steady improvement since 2011.* Statement by Minister Debbie Schafer, WCED. [online: https://wcedonline.westerncape.gov.za/news/2018-systemic-test-results-show-steady-improvement-2011]

Western Cape Education Department. (2023). *2023 Western Cape Education Department systemic tests in independent schools.* Research minute 0002/2023. 18 May 2023. [online: https://wcedonline.westerncape.gov.za/circulars/minutes23/EPminutes/DRS/edrs0002-2023.pdf]

Wills, G. (2023). *Early grade repetition in South Africa. Implications for reading. COVID-Generation RESEP Research Report*. Stellenbosch, Stellenbosch University.

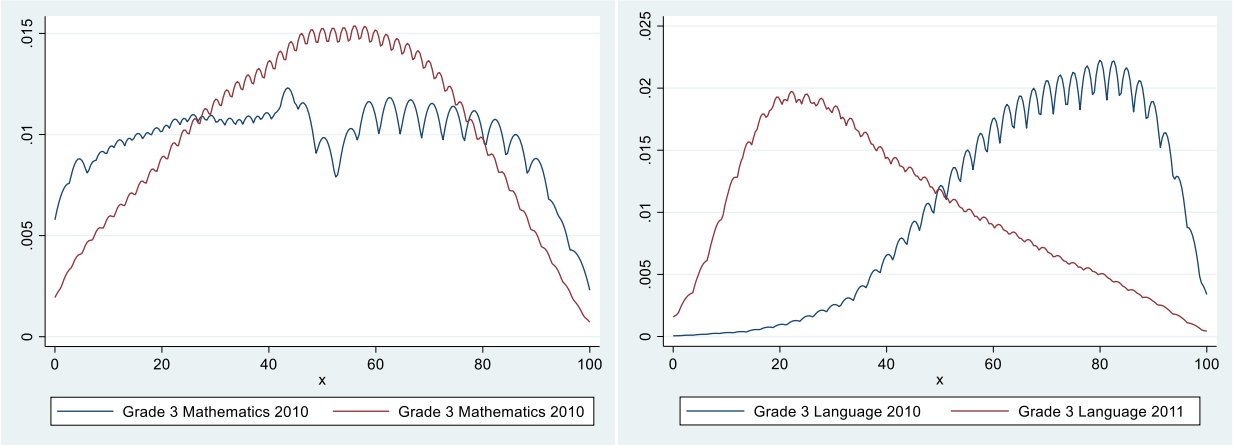
Wills, G., & Qvist, J. (2023). *Repetition and dropout in South Africa before, during and after COVID-19. COVID-Generation RESEP Research Report*. Stellenbosch, Stellenbosch University.

Wills, G. & Van der Berg, S. (2024). COVID-19 disruptions and education in South Africa: Two years of evidence. *Development Southern Africa, 41*(2): 446–465.

Xia, N., & Kirby, S. (2009). Retaining Students in Grade: A Literature Review of the Effects of Retention on Students' Academic and Nonacademic outcomes. *RAND Technical Report.* Pittsburgh: RAND Corporation.

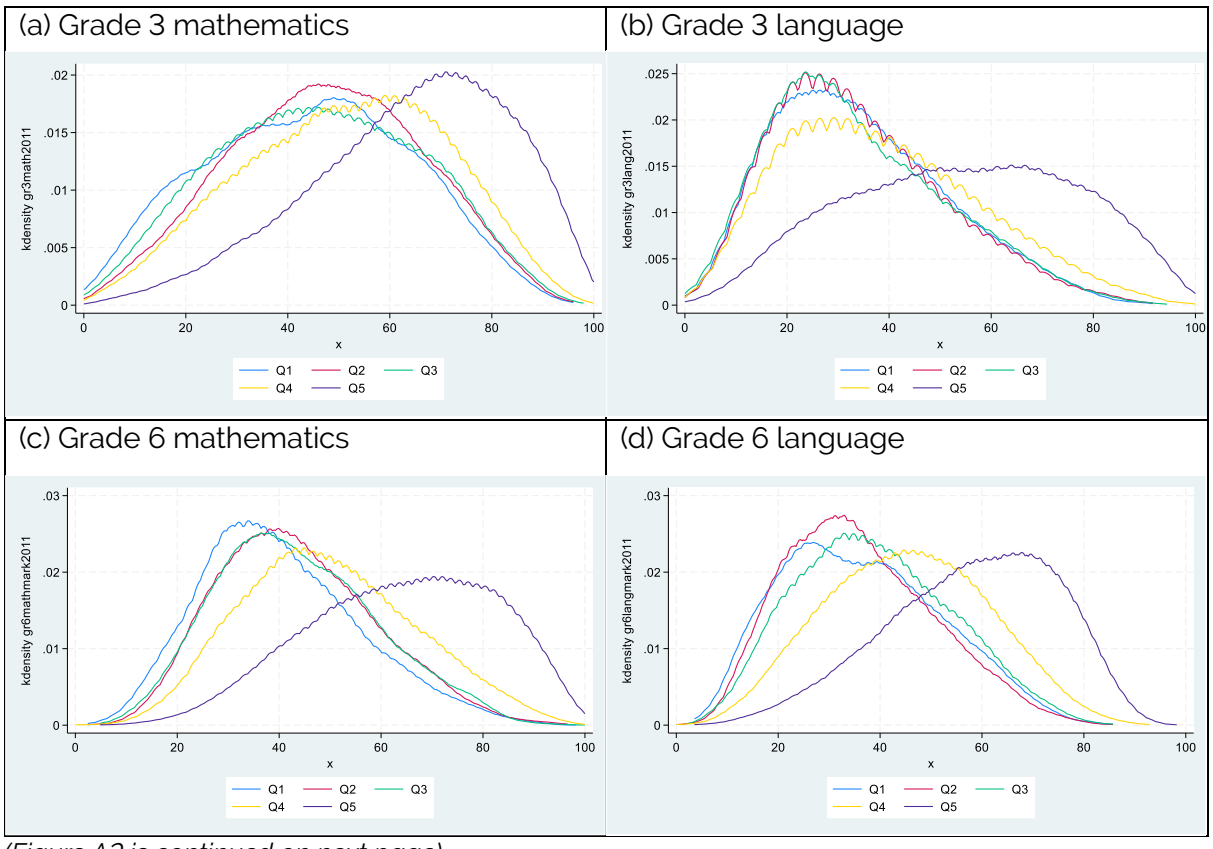
7. Appendix A

Figure A1: Comparison of mathematics and language achievement in 2010 and 2011

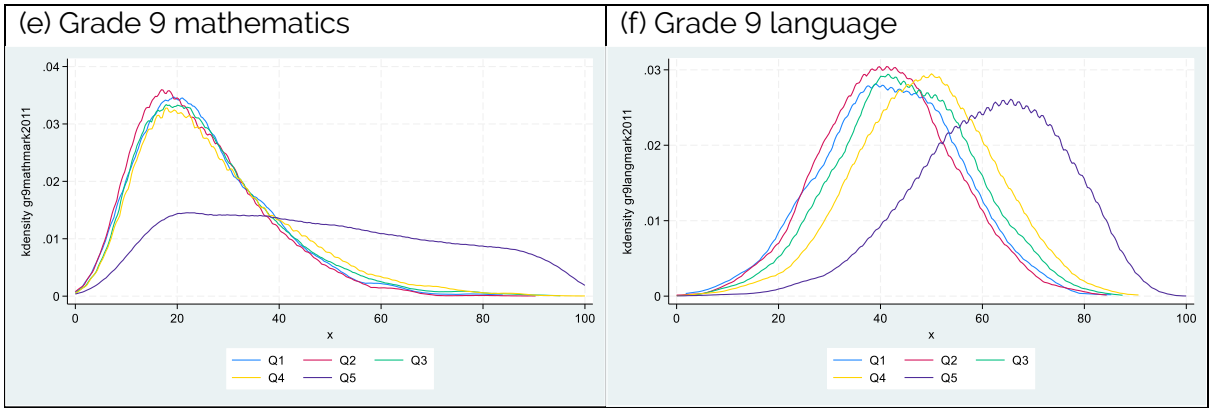


Source: Own calculations using CEMIS 2010-2019.
Notes: The achievement distribution changed substantially (especially in the case of Grade 3 language) between 2010 and 2011, which supports the officially announced changes in test difficulty in 2011 (see WCED (2019)).

Figure A2: Achievement distributions by school quintile

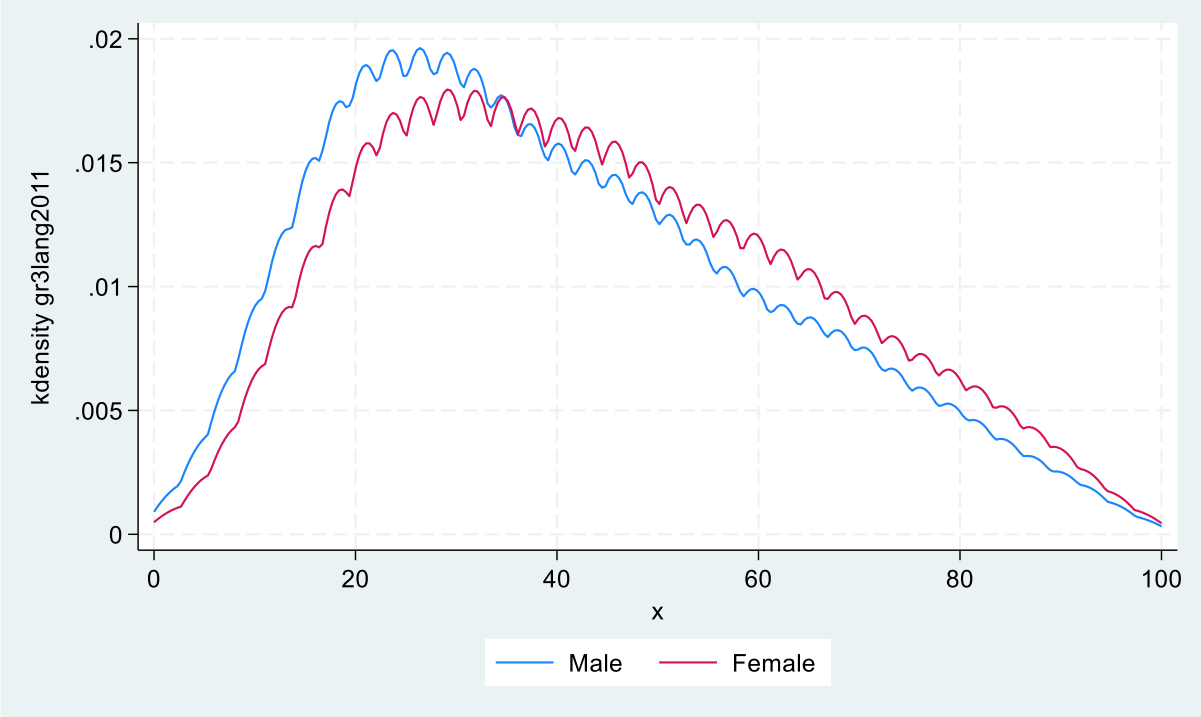


(Figure A2 is continued on next page)



Source: Own calculations using CEMIS 2010-2019. 'Q' refers to school wealth quintile.

Figure A3: Grade 3 language achievement by gender (2011)



Source: Own calculations using CEMIS 2010-2019.