



# Distinguishing Dyslexia from foundational delay: Post-Covid reading outcomes in a high-needs South African school

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## Abstract

In this study we investigated reading proficiency outcomes in 78 learners at risk of grade failure in a high-needs South African school following the COVID-19 lockdowns. The primary objective was to determine whether reading difficulties reflected neurodevelopmental disorders, such as Developmental Dyslexia (DD), or were better explained by external, context-specific factors, individually conceptualised as Foundational Delay Phenomenon (FDP). Analyses revealed that most of the learners' reading difficulties were linked to FDP rather than DD. Three contributory factors—home language and language of learning mismatch, non-attendance of Grade R, and grade repetition—were examined in and across diagnostic groups. Longitudinal trends in grade repetition before and after the COVID-19 lockdowns were also analysed to assess the broader impact on academic progression. These findings highlight that reading difficulties in this context stem primarily from

disrupted early education and limited instructional exposure rather than intrinsic cognitive deficits. The study underscores the importance of distinguishing between DD and FDP to guide accurate diagnosis, targeted intervention, and post-pandemic educational policy in high-risk school environments.

**Keywords:** reading difficulties, foundational delay, exclusionary factors, COVID-19 lockdowns, high-needs school, South Africa

## Introduction

The COVID-19 pandemic triggered one of the most significant global disruptions to education in modern history, with prolonged school closures and lockdowns severely impacting early literacy development, particularly in high-needs communities (Gustafsson & Deliwe, 2020; Spaul et al., 2021; United Nations Educational, Scientific and Cultural Organization, 2021). In South Africa, learners in the Foundation Phase (Grades R–3) experienced critical interruptions in acquiring essential reading skills that contributed to long-term academic challenges. While post-pandemic increases in reading difficulties have often been associated with DD (Schultz et al., 2023), emerging evidence suggests that many such cases are not rooted in neurodevelopmental disorders but rather reflect delays in foundational learning because of systemic and contextual disruptions (Hanushek & Woessmann, 2020; Spaul et al., 2021). This distinction lies at the heart of the present study: we argue that without a clear conceptual and diagnostic framework, South African learners are at risk of being misclassified as dyslexic when their difficulties, in fact, arise from disrupted foundational education.

External factors exacerbated during the pandemic played a significant role in shaping these outcomes. The abrupt transition to digital learning posed substantial challenges for teachers and especially for learners with special educational needs (Tyson, 2025). Inadequate instructional support during remote learning further compromised academic progress in underserved schools (Dos Santos et al., 2023), while shifting classroom dynamics and emotional stressors hindered effective learning environments (Langtry, 2025). Special educational needs coordinators faced increased demands in managing these transitions, often without systemic support (Holland & Fitzgerald, 2023). These compounded disadvantages underline the urgent need for responsive and contextually relevant educational strategies (Rvachew, 2022). However, what has been missing from both international and South African debates is an explanatory construct that captures these context-driven literacy delays with conceptual clarity. This study proposes *Foundational Delay Phenomenon (FDP)* to fill this gap.

Post-COVID lockdown interventions to improve reading competency among special needs learners in high-needs schools require substantial structural reforms and resources. Research underscores the impact of targeted support systems, such as tutoring programmes and strategic leadership, on learner outcomes (Burke & Dempsey, 2020; Morse & Nguyen, 2025). School leaders in such contexts have emphasised the need for sustainable teacher retention strategies (Robinson, 2024) and the integration of behavioural health professionals to address

the lingering socio-emotional effects of the pandemic (Hoagwood et al., 2021). Moreover, ensuring equitable access to instructional time and educational resources remains a priority for reversing pandemic-related setbacks, particularly for learners historically marginalised by systemic barriers, including language mismatch and inconsistent early education attendance (Kramarczuk Voulgarides et al., 2024). Our contribution extends this discourse by demonstrating how these structural and contextual barriers interact with reading development in a South African classroom of learners with special educational needs (LSEN), thereby making visible a phenomenon too easily conflated with intrinsic disability.

Typically designed for neurotypical learners, educational structures often lack the flexibility to support diverse learning profiles. Even in inclusive education models, the failure to differentiate instruction effectively can result in the continued marginalisation of LSEN (Reeves et al., 2022). Teachers may lack adequate training, time, or resources to adapt literacy instruction to meet the needs of learners requiring specialised support (Tarantino et al., 2022). These challenges are especially acute in under-resourced, high-needs schools, where LSEN often struggle to keep pace academically and gradually disengage (Dell'Anna et al., 2021). Many of these reading difficulties in South Africa are not linked to intrinsic cognitive deficits but reflect disrupted educational trajectories during critical developmental periods (Dalgaard et al., 2022). By explicitly distinguishing between neurodevelopmental DD and context-driven FDP, in this study we challenge deficit-oriented assumptions about LSEN in South Africa and offer a more equitable basis for diagnostic decision-making and intervention.

Despite growing international attention to pandemic-related learning loss, there remains limited research in the South African context that investigates how these external factors affect literacy outcomes, particularly among learners whose difficulties are often misinterpreted as intrinsic learning disorders (Ardington et al., 2021; Böhmer & Wills, 2025). Several studies have documented COVID-19-related learning loss in mainstream populations. Engzell et al. (2021) reported significant global declines in achievement across many different countries, while Jakubowski et al. (2023) identified substantial literacy and mathematics losses among Polish primary school learners. Schult et al. (2022) similarly observed delays in reading and mathematics in German schools, and Moscoviz and Evans (2022) reviewed widespread learning setbacks across low- and middle-income countries, including South Africa. Local studies (e.g., Ardington et al., 2021) further confirmed that early-grade learners experienced considerable foundational literacy setbacks. However, no known research has specifically examined how pandemic-related educational disruption has affected reading development in LSEN in high-needs school settings. This represents a critical blind spot in current scholarship, an issue we address by providing empirical evidence from a South African LSEN classroom.

This gap is particularly concerning because reading difficulties in LSEN populations are often attributed to DD, when they may instead result from contextual and educational disruptions associated with the COVID-19 pandemic. To address this, our study investigated the reading proficiency of 78 learners at risk of grade failure in an English-medium public

LSEN classroom, and examined whether observed difficulties reflected DD or a context-specific delay termed Foundational Delay Phenomenon (FDP). FDP was conceptualised as learning challenges stemming from disrupted foundational education rather than intrinsic neurocognitive deficits. The study also considered how three key factors—home language and language of learning mismatch (HL–LoLT), Grade R non-attendance, and cumulative grade repetition—may have contributed to or amplified these difficulties. In doing so, we not only introduce the new conceptual category of FDP but also provide a diagnostic framework with direct implications for South African educational policy and practice, particularly in shaping early identification strategies, equitable placement decisions, and post-pandemic literacy interventions.

The central research question guiding this investigation was, “What is the reading proficiency profile of learners identified as at risk of grade failure in an English-medium public LSEN classroom, and how do individual, educational, and contextual factors interact to mimic or exacerbate reading difficulties typically associated with DD, thereby illuminating the role of FDP in vulnerable populations?” Specifically, the study examined learners’ reading and spelling proficiency, the prevalence of DD compared to FDP, the influence of contextual factors such as HL–LoLT mismatch, Grade R non-attendance, and grade repetition history, and the differences in pre- and post-COVID-19 grade failure trends. Understanding these contextual influences is crucial for developing accurate diagnostic practices and equitable support systems and for informing post-pandemic educational policy in South Africa’s most vulnerable schools. By framing these questions around both diagnostic clarity and contextual equity, our study positions itself not as another account of learning loss but as a theoretical and practical reorientation of how reading difficulties are understood in South Africa’s most vulnerable schools.

These research questions provide the framework for examining both individual and contextual factors that influence reading outcomes; these are discussed in detail in the following section through a review of the relevant literature on foundational literacy development, language mismatch, early educational attendance, and grade repetition.

## Literature review

### Defining dyslexia and foundational delay phenomenon (FDP)

DD is widely recognised as a neurodevelopmental disorder characterised by persistent difficulties in accurate and fluent word recognition, decoding, and spelling, despite adequate cognitive ability, intelligence, motivation, and instructional exposure (American Psychiatric Association, 2022; Peterson & Pennington, 2015; Shaywitz & Shaywitz, 2020; Snowling & Melby-Lervåg, 2016). DD originates from intrinsic genetic and neurological differences, typically associated with phonological processing deficits, and affects approximately 5–10% of children globally (Peterson & Pennington, 2015; Snowling, 2022). However, its manifestations are influenced by linguistic and environmental factors, particularly in multilingual contexts in which learners navigate many different languages (Mazibuko et al., 2019). In South Africa, dyslexia is often underdiagnosed because of overlapping contextual

barriers that obscure its distinction from environmentally driven literacy delays (Altin et al., 2023).

High-needs schools—often classified as Quintiles 1–3 by the Department of Basic Education (DBE) and serving socio-economically disadvantaged communities—face compounded challenges such as overcrowded classrooms, limited resources, high learner-to-teacher ratios, and inadequate infrastructure (Department of Basic Education, 2019a; Van der Berg et al., 2013). Conditions in these environments frequently exacerbate early learning gaps in phonological awareness, vocabulary, and print concepts, especially where home literacy exposure is limited and early education inconsistent (Kotzé, 2015; Nel et al., 2016). The cumulative effect of these contextual barriers leads to significant foundational delays, which can resemble dyslexia but stem from systemic and environmental rather than neurocognitive causes. These delays contribute to repetition and dropout rates, particularly in contexts marked by poverty, HL–LoLT mismatches, and post-pandemic instructional disruptions (Nomlomo & Katiya, 2018; Taylor & von Fintel, 2016).

To address this diagnostic ambiguity, we introduce the Foundational Delay Phenomenon (FDP), a proposed framework that describes literacy and learning deficits that arise from reversible environmental, instructional, and systemic factors rather than intrinsic neurocognitive impairments. Unlike DD, which is lifelong and neurodevelopmental in origin, FDP results from cumulative contextual risks such as disrupted early education, resource scarcity, non-attendance in the foundational phase, and HL–LoLT mismatches (Kotzé, 2015; Mazibuko et al., 2019). These conditions, amplified by COVID-19 school closures and systemic inequities, can mimic dyslexia symptoms in the absence of targeted diagnostic assessment. While not a recognised clinical category, FDP is advanced as a conceptual tool with diagnostic utility, offering a framework to differentiate between environmentally induced literacy delays and lifelong neurodevelopmental disorders. Evidence for its validity comes from South African studies showing that early interventions in high-needs contexts can remediate such delays and improve literacy outcomes (Makgato et al., 2023; Nel et al., 2016).

Building on Peterson and Pennington’s (2015) classification of non-dyslexic poor readers, FDP extends this category from a South African contextual perspective to reflect the unique disruptions created by systemic inequality and COVID-19 lockdowns. The concept emphasises the importance of triangulating evidence—learner profiles, contextual risk factors, and reading assessment data—to achieve accurate diagnosis. Its novelty lies in foregrounding the reversibility of context-driven literacy deficits, ensuring that learners are not misdiagnosed with dyslexia when their difficulties are better explained in relation to environmental and systemic barriers. By clarifying the distinction between DD and FDP, the framework provides a pathway for more equitable identification and intervention in multilingual, high-needs educational settings.

## HL and LoLT mismatch

A substantial proportion of South African learners experience a persistent mismatch between their HL and LoLT, a challenge most pronounced in under-resourced schools (Heugh, 2022; Spaull & Hoadley, 2018). While many learners begin schooling in an indigenous African language, they are often required to transition to English as LoLT by Grade 4—frequently before acquiring secure foundational literacy in their HL (Heugh, 2013; Probyn, 2009). This abrupt linguistic shift imposes a dual cognitive load since learners must simultaneously acquire subject content and a new language, typically in contexts where bilingual scaffolding is limited or absent (Taylor & von Fintel, 2016). The consequences are especially detrimental in high-needs schools, where learners already face restricted access to print-rich environments and opportunities for linguistic development (Pretorius & Spaull, 2016).

Research consistently demonstrates that learners who lack proficiency in LoLT at the transition point perform poorly in reading comprehension, reasoning, and abstract academic tasks and this undermines foundational literacy development (Pretorius & Spaull, 2016). These delays are compounded over time, manifesting in grade repetition and eventual dropout, particularly in contexts where African languages remain undervalued in the curriculum (Mazibuko et al., 2019; Nomlomo & Katiya, 2018). Such patterns highlight how systemic language barriers exacerbate existing educational inequalities since the shift to English often functions less as a tool of empowerment and more as an obstacle to accessing the curriculum (Taylor & von Fintel, 2016).

South African scholars increasingly argue that these language-policy challenges intersect directly with literacy acquisition and retention, with profound implications for learner outcomes. For example, learners whose foundational literacy in HL has not been secured may present with difficulties misinterpreted as DD, when in fact these difficulties are more accurately attributable to contextual learning loss or what has been conceptualised as the Foundational Delay Phenomenon (FDP) (Masunungure & Maguvhe, 2025; Musundire, 2025). To mitigate such risks, scholars advocate for translanguaging and multilingual pedagogies that leverage learners' full linguistic repertoires, positioning them as resources for learning rather than barriers (Heugh, 2013; Makalela, 2015). These decolonial, inclusive approaches (Banda, 2000; Makoni & Pennycook, 2024) emphasise differentiated instruction, bilingual scaffolding, and culturally responsive teaching to bridge the HL–LoLT gap. Collectively, this body of work underscores that addressing the HL–LoLT mismatch is not merely a linguistic issue but a systemic imperative for improving literacy, equity, and educational retention in multilingual South Africa.

## Grade R non-attendance

Grade R (Reception Year) provides a vital early foundation for formal schooling, offering structured exposure to emergent literacy, numeracy, and socio-emotional skills. For learners from disadvantaged communities, quality Grade R attendance can help mitigate the effects of poverty and prepare children for academic success (Biersteker et al., 2016; Van der Berg et al., 2013). However, many learners in impoverished or rural areas either do not attend Grade

R or attend under-resourced programmes with limited developmental value (Department of Basic Education, 2019a). In addition, financial barriers may also contribute to non-attendance, even in better-resourced public schools. For example, at our participating school, while designated as a Quintile 5 institution in Gauteng, Grade R fees were notably higher than those for Grade 1, an outcome of the different funding structures historically applied to non-compulsory grades, despite the school continuing to receive subsidies from the DBE.<sup>1</sup> This cost disparity may discourage under-resourced families from enrolling their children in Grade R, despite the overall affluence of the school community. Although the DBE has declared Grade R compulsory from 2026, with fees for Grades R and 1 equalised, this change is too recent to have impacted the current cohort of learners affected by early-grade absenteeism (Department of Basic Education, 2025).

This lack of early preparation leaves learners poorly equipped for Grade 1, particularly in phonological awareness, vocabulary, and print concepts, the foundational skills that underpin reading acquisition (Kotzé, 2015; Nel et al., 2016). This is especially important because DD is a neurodevelopmental condition present from birth that primarily affects the acquisition of accurate and fluent reading skills (Peterson & Pennington, 2015; Snowling & Melby-Lervåg, 2016). While DD originates in neurocognitive differences, all children—including those with DD—require consistent, high-quality early literacy experiences to reach their reading potential. In high-needs schools, where learners often enter with limited exposure to print and oral language at home, the absence of structured Grade R experiences can significantly increase the risk of persistent reading difficulties and may confound the distinction between congenital DD and context-driven delays.

Linking to the HL-LoLT mismatch, non-attendance amplifies literacy challenges in multilingual settings, where early bilingual support is crucial; without it, foundational delays evolve into patterns resembling DD, affecting long-term retention (Altin et al., 2023; Makgato et al., 2023). Inclusive education frameworks from South African voices stress the need for multilingual early interventions to prevent such interconnections from perpetuating inequalities (Nomlomo & Katiya, 2018).

Research underscores that early literacy skills are most effectively developed through structured, in-person instruction that allows for interaction, modelling, and feedback during early childhood (Biersteker et al., 2016; Neuman & Cunningham, 2009). Teacher-led activities such as shared reading, guided play, and oral language enrichment are critical for emergent literacy development, especially for learners from under-resourced environments who may lack access to books or adult language models at home (Biersteker et al., 2016; Neuman & Cunningham, 2009). In overcrowded and resource-scarce classrooms, teachers often cannot compensate for these foundational gaps, further widening academic disparities (Nel et al., 2016; Van der Berg et al., 2013). Without the benefits of a strong early learning experience, including consistent face-to-face teaching, learners are more likely to struggle with reading throughout their school careers. In high-needs contexts, this creates a particularly vulnerable group in which reading difficulties may mimic the profile of DD,

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1 School administration, personal communication, 30 June 2025

risking misdiagnosis and inappropriate intervention. Consequently, non-attendance in Grade R is not only an indicator of early educational disadvantage but also a key contextual factor in understanding reading delays and distinguishing between DD and the FDP in post-COVID high-needs school populations (Kotzé, 2015; Peterson & Pennington, 2015).

### Cumulative grade failure as a contextual risk factor

Grade repetition is widely recognised as a significant factor contributing to negative academic trajectories, often exacerbating underlying learning difficulties rather than remediating them (Alexander et al., 2003; Ikeda & García, 2013). In South Africa, this issue is particularly pronounced in high-needs schools, typically categorised as Quintiles 1–3 in the Department of Basic Education system, but also encompasses schools with learners requiring special support regardless of quintile. These schools serve students facing substantial socio-economic, linguistic, and resource-related barriers, including limited access to educational materials like books or technology, under-resourced infrastructure (e.g., overcrowded classrooms and the lack of libraries), and teacher challenges such as high learner-to-teacher ratios and limited professional development (Department of Basic Education, 2019a). Such systemic challenges create vulnerable learning environments where repeated grade failures compound instructional gaps, reduce learners' academic confidence, and heighten the risk of cumulative learning difficulties, including reading delays that may mimic DD.

In this study we examined cumulative grade failure as a critical contextual indicator to distinguish between DD, a neurodevelopmental disorder characterised by persistent reading and spelling difficulties despite adequate cognitive ability and instructional exposure (Shaywitz & Shaywitz, 2020), and the proposed foundational learning deficits profile (FDP), which describes literacy struggles driven by environmental and instructional deficiencies. Unlike DD, which is intrinsic and lifelong, FDP arises from reversible contextual factors, such as disrupted early learning or inadequate instructional resources, but can mimic DD without rigorous diagnostic evaluation (Kotzé, 2015; Nel et al., 2016). In high-needs schools, learners who repeat grades often lack foundational skills like phonological awareness or vocabulary, a problem intensified by socio-economic barriers and systemic issues like underqualified teachers, which can mask intrinsic reading difficulties in DD or produce literacy deficits resembling DD in FDP (Mokonyane & Radebe, 2025; Snowling et al., 2020). By highlighting the diagnostic value of cumulative grade failure, we aimed to enhance the accuracy of identifying intrinsic versus environmentally driven literacy challenges in these challenging educational contexts.

The three factors of HL–LoLT mismatch, non-attendance of Grade R, and grade repetition, are considered internal drivers of learning outcomes because they directly influence the learner's cognitive and linguistic development rather than functioning solely as external contextual constraints. HL–LoLT mismatch affects the learner's ability to process, decode, and comprehend instructional language, thereby shaping literacy acquisition from the outset (Masunungure & Maguvhe, 2025; Mouboua et al., 2024). Similarly, non-attendance at Grade R results in foundational skill gaps in phonemic awareness, vocabulary, and early literacy strategies, which persist into the early grades and constrain reading proficiency

(Engelbrecht et al., 2015). Grade repetition, rather than being merely a policy outcome, often reflects and reinforces these intrinsic learning gaps in affecting learner motivation, self-efficacy, and the consolidation of core literacy skills (Fourie & Schlebusch, 2021). Together, these factors operate as internal mediators of reading development, directly shaping the learner's trajectory and justifying their inclusion as intrinsic drivers in our study's framework.

The literature further reveals a complex interplay between language of instruction, early literacy development, and grade retention. Learners who experience HL–LoLT mismatch, lack Grade R preparation, and repeat grades are disproportionately affected by literacy delays (Heugh, 2022; Pretorius & Klapwijk, 2016; Spaul & Pretorius, 2019). These factors do not operate in isolation but compound one another, often producing cumulative disadvantage that undermines reading acquisition and overall academic progression (Alexander et al., 2003; Ikeda & García, 2013). Such patterns may generate learner profiles that superficially resemble DD) but are more accurately explained by foundational disruption rather than intrinsic neurodevelopmental disorder (Peterson & Pennington, 2015; Snowling & Hulme, 2021).

This study's contribution lies in synthesizing these strands into the FDP framework and offering a contextually grounded alternative to purely neurodevelopmental explanations. By doing so, it advances diagnostic clarity and informs the development of targeted interventions in South Africa's most vulnerable schools as described by Shaywitz and Shaywitz (2020) and by Spaul and Pretorius (2019).

## Method

### Research design

We employed a descriptive and comparative quantitative design to investigate the reading proficiency of learners at risk of academic failure. Standardised diagnostic reading and spelling assessments were administered to all participants, and supplemental qualitative data was collected via brief interviews and questionnaires completed by LSEN coordinators, educators, and the school principal. However, since the primary focus was on numerical performance outcomes, the study is classified as quantitative. The overarching aim was to explore whether reading difficulties among referred learners were more indicative of neurodevelopmental disorders, such as DD, or better explained by contextual factors associated with disrupted early education, conceptualised as FDP.

### Participants

A total of 78 learners (41 male, 37 female), ranging from Grade 2 to Grade 7, were purposively selected from a high-needs public school in Gauteng. These learners had previously been referred to the LSEN class because of persistent literacy difficulties that had begun to significantly impair their overall scholastic performance. Identification was

conducted collaboratively by the LSEN coordinator and educators, who targeted learners deemed at risk of grade failure and in need of remedial intervention.

All participants had undergone formal reading proficiency assessments and had received remedial support prior to inclusion in the study. The inclusion criteria required that learners demonstrate substantial reading and/or spelling difficulties severe enough to interfere with comprehension and learning. Only those who met these criteria and had a documented history of literacy-related academic challenges were considered eligible. The final sample included learners across the following grades: Grade 2 (n = 14), Grade 3 (n = 13), Grade 4 (n = 22), Grade 5 (n = 5), Grade 6 (n = 5), and Grade 7 (n = 19).

## Setting

In South Africa, public schools are ranked into quintiles (1–5) according to the relative wealth of the surrounding community, with quintile 1 schools serving the poorest learners and quintile 5 the most affluent. The classification determines funding and fee policies, though it does not always reflect the actual socioeconomic profile of learners.

The study was conducted at a public school in Gauteng that is officially designated as a quintile 5 institution under the national ranking system. However, this classification does not accurately reflect the socioeconomic realities of its learner population. Although located in a suburban area, most of the learners are daily commuters transported from surrounding townships, predominantly via minibus taxis. The school continues to receive DBE subsidies and food schemes, underscoring the high-needs profile of its learners despite the high-quintile designation. This context highlights the misalignment between policy classification and the lived experiences of a school community. In response to its high-needs learner profile, the school maintains a dedicated LSEN class for learners requiring additional academic support. These vulnerabilities were further exposed during the COVID-19 lockdown period (2020–2021) during which the school faced severe disruptions to teaching and learning. Teachers reported significant challenges in distributing learning materials to township-based learners, many of whom had limited or no access to digital platforms. In several instances, educational content had to be delivered through informal networks, including taxi drivers and public transport, underscoring the unequal access to remote learning opportunities during this time.

## Measures and procedures

All assessments were conducted in English, which is the school's LoLT. Learners were evaluated using a battery of standardised diagnostic literacy assessments designed for English-speaking children, measuring reading speed, accuracy, fluency, spelling proficiency, and decoding ability.

The *UCT Spelling Test* (University of Cape Town, 1985) was administered to assess orthographic and phonological spelling ability. The test consists of graded word lists presented orally by the examiner, with words increasing in complexity across the assessment. Learners are required to write down each dictated word, and scoring is based on accuracy,

enabling the calculation of a spelling age. The test has been widely used in South Africa and provides developmental benchmarks for identifying below-age spelling proficiency.

The *One-Minute Reading Test* (Transvaal Education Department, 1987) was employed to measure word recognition, accuracy, and reading fluency. The test is comprised of a list of monosyllabic words that the learner reads aloud for one minute. Errors and correctly read words are tallied to calculate reading accuracy and speed, which is then converted into a chronological reading age (Le Roux et al., 2017). This test is frequently used in diagnostic and school-based literacy evaluations in South Africa and is sensitive to detecting delays in foundational decoding and fluency.

Decoding proficiency was further assessed using the Health Professions Council of South Africa (HPCSA)-approved and endorsed *Stark Griffin™ Dyslexia Diagnostic Test (DDT) Form A Decoding Test*, 2019). This test evaluates both eidetic (visual recognition of whole words) and phonetic (grapheme–phoneme correspondence) processing. Learners are required to read a series of graded real words, allowing examiners to distinguish between visual memory–, orthographic processing–, morphological awareness–, and phonological decoding–based strategies. Performance is expressed in terms of a functional reading grade level and is scored according to standardised South African norms. These normative benchmarks enhance diagnostic accuracy by situating learner performance within expected developmental trajectories. The test has demonstrated construct validity in distinguishing between DD and non-dyslexic poor reading (Stark et al., 2022).

All assessments were administered individually in a quiet classroom environment by trained assessors, following standardised instructions to ensure reliability and comparability across learners. Raw scores were converted into standard scores, spelling ages, and reading ages according to test-specific norms. This multi-test diagnostic approach enhanced validity by triangulating spelling, fluency, and decoding outcomes, thereby providing a robust profile of each learner’s literacy proficiency.

*Methodological justification:* The combination of these three assessments was deliberate to provide a comprehensive diagnostic profile. The UCT Spelling Test captures orthographic and phonological knowledge, the *One-Minute Reading Test* evaluates reading speed and fluency, and the Stark Griffin™ DDT assesses decoding ability through both visual and phonological pathways. Together, they measure the critical domains of literacy—orthographic, phonological, and fluency skills—thereby enhancing construct validity and ensuring a nuanced understanding of each learner’s reading proficiency. This multi-test approach allows for robust differentiation between learners with neurodevelopmental reading disorders (such as DD) and those whose reading difficulties stem from instructional gaps or foundational delays.

Three psychometrists registered with HPCSA administered assessments during June and July 2024. Of the 78 learners assessed, 47 were identified as possibly exhibiting signs of DD. However, given data completeness and consent constraints, a subset of only nine learners met the inclusion criteria and subsequently underwent further evaluation using the Stark Griffin™

Dyslexia Assessment. Learners were included in this group if they showed persistent reading and spelling difficulties despite adequate schooling, had average or above-average cognitive ability, and had no significant sensory, emotional, or environmental barriers to learning. DD is a neurodevelopmental learning disorder that primarily affects accurate and fluent word reading and spelling, often because of difficulties with phonological processing. The Stark Griffin™ Dyslexia Assessment is a comprehensive instrument that evaluates key reading-related skills such as decoding, phonological awareness, and working memory. It classifies DD into seven subtypes and eight severity levels to support accurate diagnosis and intervention planning (Stark, 2020). This assessment meets the diagnostic criteria of the DSM-5-TR.

In addition to individual assessment data, historical school records were reviewed to obtain longitudinal information on grade failure trends at the study site from the pre-COVID period (2017–2019) to the post-COVID years (2020–2023). These records were drawn from the South African School Administration and Management System (SA-SAMS), the official data management platform used by public schools in South Africa to capture learner progression and academic performance (Department of Basic Education, 2019b). The principal and LSEN coordinator made the anonymous data available, and we used it to analyse the cumulative effect of grade repetition as a contextual factor. Learners were grouped and analysed according to their grade level during testing.

### Ethical considerations

Ethical clearance for the study was obtained from the Research Ethics Committee of the Faculty of Humanities, University of Pretoria (Ref: HUM002/0524). Written informed consent was obtained from the Department of Basic Education, school principal, school governing body, parents or legal guardians, and assent was obtained from all participating learners. In alignment with the University of Pretoria's research policy and the Protection of Personal Information Act all data will be securely stored on the researcher's password-protected computer for 10 years. Anonymised raw data will also be archived in the university's data repository and FigShare and will be accessible to other researchers upon reasonable request.

### Data analysis

Data was analysed using the Statistical Package for the Social Sciences (SPSS) version 29 (IBM Corp., 2022). SPSS is a comprehensive statistical software suite widely used to manage, explore, and analyse quantitative data. It enables researchers to compute descriptive statistics (e.g., means, medians, standard deviations), conduct inferential tests (such as chi-square analyses, z-tests for proportions, and linear regressions), and manage complex datasets efficiently and reproducibly (Salcedo & McCormick, 2023).

Descriptive statistics—including means, standard deviations, medians, interquartile ranges, and proportions—were calculated to characterise reading and spelling performance across diagnostic groups and grade levels. To explore contributing factors associated with reading

difficulties, three risk variables were examined within the full sample of referred learners ( $N = 78$ ): (1) home language not matching the language of learning and teaching ( $HL \neq LoLT$ ), (2) non-attendance of Grade R, and (3) a history of grade repetition. These same variables were subsequently analysed in subgroups diagnosed with DD or FDP to evaluate statistically significant differences between the groups. In addition, cumulative grade failure data was extracted from the South African School Administration and Management System (SA-SAMS) to assess academic progression trends before and after the COVID-19 lockdowns. Comparative analyses were conducted on failure data from pre-COVID (2017–2019) and post-lockdown (2020–2023), disaggregated by grade level to assess differential impacts across the Foundation and Intermediate Phases.

Inferential statistical tests included two types of chi-square ( $\chi^2$ ) tests. The  $\chi^2$  goodness-of-fit (GoF) tests were applied to determine (i) whether the prevalence of each exclusionary risk factor in the overall sample ( $N = 78$ ) significantly exceeded national benchmarks, such as DBE estimates for HL–LOLT mismatch, Grade R enrolment, and repetition rates; and ii) whether the distribution of grade failures over two time periods (pre-COVID vs post-COVID) differed from an expected uniform distribution (i.e., 50%/50% split). In contrast, the  $\chi^2$  tests of independence ( $\chi^2$  independence tests) were used to assess associations between diagnostic group and categorical risk factors (HL–LOLT mismatch, Grade R non-attendance, and history of grade repetition). Additionally, z-tests for proportions were applied to evaluate significant differences in grade failure rates across the pre- and post-lockdown periods. Exact binomial tests were applied in cases where expected frequencies were low or sample sizes were small, particularly in subgroup analyses involving the DD group ( $n = 9$ ), to ensure statistical validity when normal approximation assumptions were not met. To examine whether grade failures exhibited a significant trend over time, a simple linear regression analysis was conducted using year (2017–2023) as the independent variable and total grade failures per year as the outcome variable. This allowed for quantifying the direction, magnitude, and statistical significance of change in grade failures over the observed time span. All tests used a significance level of  $p < .05$ . This multifaceted analytic approach enabled a detailed examination of whether learners' reading difficulties stemmed from intrinsic neurodevelopmental disorders or were more closely linked to disrupted educational access and foundational learning loss caused by the COVID-19 lockdowns.

## Results

- Inferential statistical analysis of the exclusionary factors among learners at risk of school failure

A  $\chi^2$  GoF was conducted to determine the statistical significance of three exclusionary risk factors among learners referred for academic difficulties ( $N = 78$ ). These tests evaluated whether the observed frequencies for each factor significantly differed from expected distributions if no risk factor was disproportionately present. A summary of the statistical outcomes for all three risk factors is presented in Table 1.

## HL and LoLT mismatch

A substantial proportion of the sample ( $n = 71$ ; 91.0%) presented with a mismatch between HL and LoLT used at school. Given national estimates indicating that approximately 60–70% of South African learners are taught in a language other than their mother tongue, using a baseline of 65% HL  $\neq$  LoLT in the general population, a  $\chi^2$  GoF test was conducted to determine whether the observed frequency significantly exceeded this expected range. The analysis revealed a statistically significant overrepresentation of learners with a HL  $\neq$  LoLT among those referred for assessment. Specifically, 91% of the sample presented with an HL–LoLT mismatch, a proportion significantly higher than national estimates,  $\chi^2 (1, N = 78) = 23.22, p < .001$ . This result reinforces HL–LoLT mismatch as a critical risk factor for reading difficulties and school failure.

## No Grade R attendance

Of the sample, 49 learners (62.8%) had not attended Grade R before entering Grade 1. This figure exceeds the national average pre-COVID Grade R enrolment rate of approximately 80% (Van der Berg et al., 2013). A  $\chi^2$  GoF test using this benchmark revealed a statistically significant difference,  $\chi^2 (1, N = 78) = 48.64, p < .001$ , demonstrating that learners without formal Grade R exposure are significantly overrepresented in the referred group. This finding strongly supports the argument that early educational exclusion (specifically, missing Grade R) is a significant risk factor contributing to foundational delays, and one that disproportionately affects learners who later struggle academically.

## History of grade repetition

A total of 25 learners (32.0%) in the sample had a record of repeating at least one grade, a proportion significantly higher than the national benchmark of 15% for grade repetition among South African learners. A chi-square goodness-of-fit test confirmed this overrepresentation as statistically significant,  $\chi^2 (1, N = 78) = 17.79, p < .001$ . This result suggests that grade repetition is more common in this at-risk cohort than expected based on population norms. Although less prevalent than the observed home language mismatch, grade repetition remains a notable exclusionary risk factor that may compound academic challenges, particularly in delayed or disrupted foundational learning cases.

**Table 1**  
Summary of statistical results

Factor	Observed n	%	Chi-square (df)	p-value	Significance
HL $\neq$ LoLT	71	91.0%	$\chi^2 (1) = 23.22$	< .001	Statistically significant
No Grade R attendance	49	62.8%	$\chi^2 (1) = 48.64$	< .001	Statistically significant
Repeated Grade	25	32.0%	$\chi^2 (1) = 17.79$	< .001	Statistically significant

## Interpretation

The findings indicate that a mismatch between learners' home language and the language of instruction is the most statistically significant exclusionary factor associated with risk of academic failure in this sample. Non-attendance of Grade R also appears relevant and shows statistical significance ( $p < 0.05$ ). Interestingly, while grade repetition is present in nearly one-third of the cohort, it was significantly less frequent than a 50% distribution would predict, suggesting that learners are being referred for support even before grade retention occurs. This may point to a growing awareness among educators of signs of early academic risk. However, it also underlines the urgency of intervening earlier in language barriers and inadequate early childhood education.

- Inferential statistics comparing the prevalence and potential impact of the three exclusionary factors across the DD and FDP classification groups.

### Inferential statistics: Comparison of risk factors across classification groups

To evaluate whether three key exclusionary risk factors—(1) HL and LoLT mismatch, (2) lack of Grade R attendance, and (3) prior grade repetition—differed significantly between DD and FDP diagnostic groups,  $\chi^2$  independence tests were conducted. In addition to between-group comparisons, observed prevalence rates were compared with DBE benchmark expectations to assess whether these factors were significantly overrepresented in the sample. A summary of the statistical outcomes for all three risk factors across the two groups is presented in Table 2.

#### 1. HL and LoLT Mismatch

All learners in the DD group ( $n = 9$ ; 100%) and most in the FDP group ( $n = 55$ ; 88.7%) presented a mismatch between their HL and the school's LoLT. However, a chi-square test of independence indicated that the proportion of HL–LoLT mismatch did not differ significantly between the two diagnostic groups,  $\chi^2 (1, N = 71) = 0.91, p = .340$ . Despite this lack of significant difference, both proportions exceeded the DBE's expected upper benchmark of 70% for  $HL \neq LoLT$ . Specifically, the observed rate of 88.7% in the FDP group was significantly higher than the benchmark,  $z = 3.78, p < .001$ , while the 100% prevalence in the DD group also exceeded the benchmark ( $p = .039$ , binomial exact test). These results suggest that  $HL \neq LoLT$  is a pervasive contextual risk factor, significantly overrepresented across both diagnostic categories.

#### 2. No Grade R Attendance

Non-attendance of Grade R was reported for 5 of the 9 learners in the DD group (55.6%) and 40 of the 62 learners in the FDP group (64.5%), with a chi-square test of independence showing no statistically significant difference in Grade R attendance between the two diagnostic groups,  $\chi^2 (1, N = 71) = 0.27, p = .605$ . However, both groups demonstrated markedly higher non-attendance rates than the DBE's expected 25–30% benchmark. The FDP group's rate of 64.5% significantly exceeded this benchmark,  $z = 5.52, p < .001$ , while

the DD group's rate of 55.6%, though descriptively higher, did not reach statistical significance in the binomial exact test ( $p = .143$ ), likely because of the small sample size. These findings suggest that missing foundational early childhood education is a widespread contextual risk factor, particularly pronounced among FDP learners.

### 3. Grade Repetition

Grade repetition was observed in 4 of the 9 learners in the DD group (44.4%) and 21 of the 62 learners in the FDP group (33.9%), with a chi-square test of independence indicating no significant association between diagnostic group and grade repetition,  $\chi^2(1, N = 71) = 0.38$ ,  $p = .537$ . Nonetheless, both proportions were substantially higher than the DBE's 10–20% benchmark range. For the FDP group, this overrepresentation was statistically significant,  $z = 2.33$ ,  $p = .010$ . In contrast, the higher percentage in the DD group did not reach significance in the exact binomial test ( $p = .194$ ), likely due to the small sample size. These findings suggest that grade repetition is common among referred learners and is particularly pronounced in those with FDP.

**Table 2**  
Summary of between-group and benchmark comparisons

Risk factor	DD (n = 9)	FDP (n = 62)	$\chi^2$ (df)	p-value	Statistically above than DBE benchmark?
HL $\neq$ LoLT	100.0% (n = 9)	88.7% (n = 55)	$\chi^2(1) = 0.91$	.340	Both groups significantly above DBE benchmark 70%
No Grade R Attendance	55.6% (n = 5)	64.5% (n = 40)	$\chi^2(1) = 0.27$	.605	FDP significantly above DBE benchmark range of 25–30%; DD not significantly different from DBE benchmark range
Grade Repetition	44.4% (n = 4)	33.9% (n = 21)	$\chi^2(1) = 0.38$	.537	FDP significantly above DBE benchmark range 10–20%; DD not significantly different from DBE benchmark range

### Interpretation

Although trends were observed, none of the three exclusionary factors showed a statistically significant difference between DD and FDP groups. HL and LoLT mismatch was nearly universal in both groups and thus not a differentiating factor. Grade R non-attendance was slightly more prevalent in the FDP group, consistent with its definition as a phenomenon arising from disrupted foundational education. Grade repetition was proportionally more frequent in the DD group, possibly reflecting a more extended history of academic difficulty. However, the small sample size in the DD category ( $n = 9$ ) limits the statistical power of these findings and the generalisability.

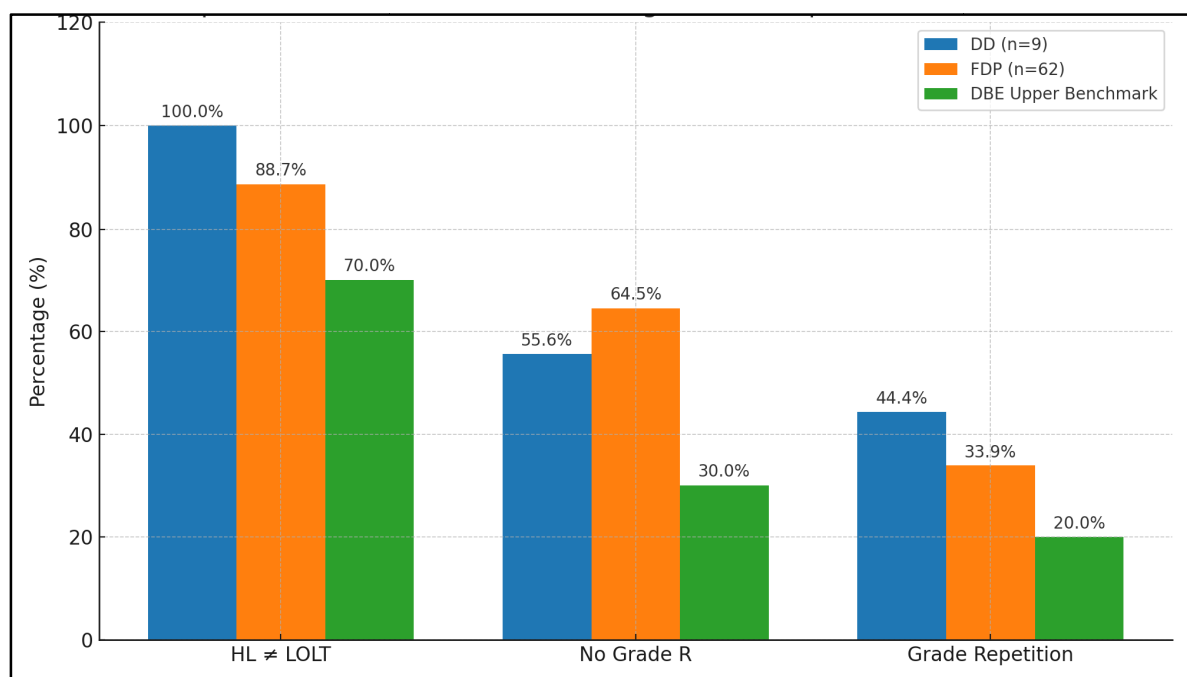
These results support the interpretation that these exclusionary factors are common across both groups but do not significantly differentiate DD from FDP. This reinforces the

importance of considering other diagnostic indicators such as familial history, phonological deficits, and instructional history when distinguishing between DD and FDP.

The bar graph in Figure 1 illustrates the percentage prevalence of the three key educational risk factors HL  $\neq$  LoLT, no Grade R attendance, and grade repetition across learners diagnosed with DD and FDP. DBE benchmark upper limits are included for comparison. The graph highlights the overrepresentation of these risk factors in both diagnostic groups, particularly among FDP learners.

**Figure 1**

Comparison of risk factors across classified groups and DBE benchmarks



- Inferential statistical analysis examining cumulative grade failures pre- and post-COVID-19 lockdowns in South Africa.

To assess whether there was a significant increase in grade failures following the COVID-19 lockdown period, a  $\chi^2$  GoF was conducted comparing failures detected pre-COVID (2017–2019) to those post-COVID (2020–2023). The total number of recorded grade failures in the pre-COVID period was 106, while the post-COVID period reflected a markedly higher total of 259 (Table 3).

**Table 3**

Distribution of grade failures pre- and post-COVID

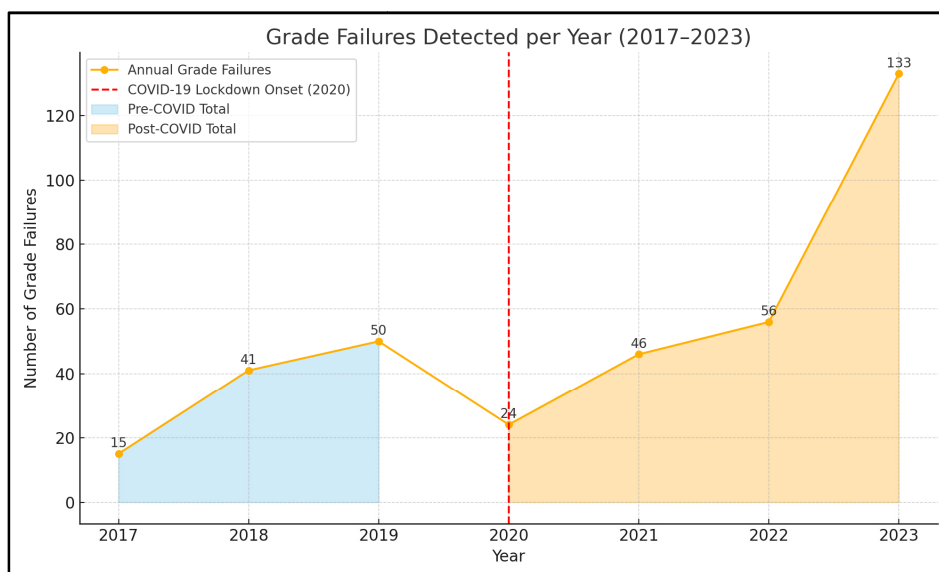
Period	Grade Failures ( <i>n</i> )	% of Total
Pre-COVID	106	29.0%
Post-COVID	259	71.0%
Total	365	100%

A chi-square GoF test comparing the observed counts of grade failures across periods against an expected uniform distribution (i.e., no difference between pre- and post-COVID) revealed a statistically significant increase in the post-COVID period,  $\chi^2(1, N = 365) = 65.30, p < .001$ . This result confirms that the number of grade failures rose significantly following the onset of lockdowns. The sharp post-pandemic increase suggests that disruptions to foundational instruction and progression continuity contributed to academic regression in affected cohorts. Although a temporary dip in reported failures was noted in 2020, likely because of national promotion policies and interruptions in recordkeeping, grade failures more than doubled in the post-COVID years, with the most pronounced increases occurring from 2021 onwards.

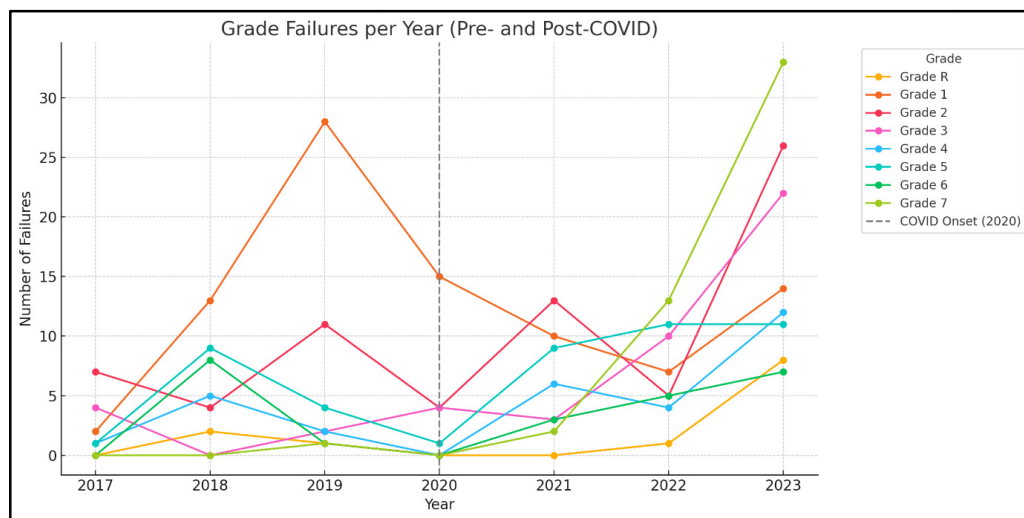
To further assess this pattern over time, a simple linear regression was conducted to quantify the rate of increase in grade failures (2017–2023) across the full-time span (2017–2023). The analysis revealed a significant positive relationship between year and the number of grade failures:

$F(1, 5) = 6.91, p = .047$  (indicating the overall regression model is statistically significant), with  $R^2 = .58$  (meaning that 58% of the variance in the number of grade failures is explained by the year) and adjusted  $R^2 = .50$  (indicating that 50% of the variance is still meaningfully explained after adjusting for degrees of freedom). The regression coefficient for year was statistically significant,  $B = 13.57, SE = 5.16, t = 2.63, p = .047$ , indicating an average annual increase of approximately 13.6 grade failures. The standard error of estimate was 11.13, indicating that the model's predicted number of grade failures deviated from the observed values by approximately 11 learners on average. This model confirms a significant upward trajectory in grade failures over time, particularly after 2020, as seen in Figures 2 and 3, which display total annual grade failures per year and grade (Grades R–7), respectively, from 2017 to 2023. In all the figures, a vertical dashed line marks the onset of the COVID-19 lockdowns in South Africa.

**Figure 2**  
Cumulative grade failures (2017–2023)

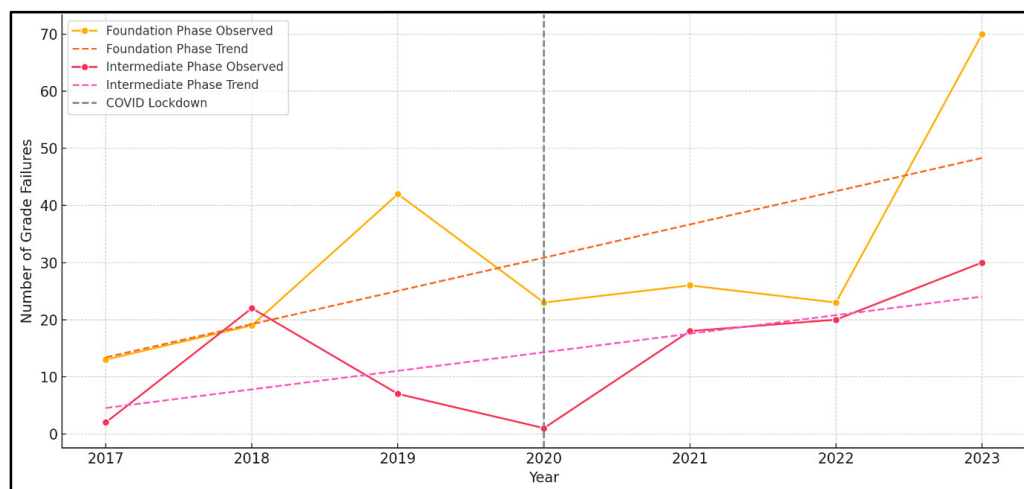


**Figure 3**  
Cumulative grade failures per grade (2017–2023)



A superimposed regression line illustrates the increasing trend in Figure 4 across phases. The cumulative regression in learner progression post-2020 is visible in all three visuals.

**Figure 4**  
Regression of grade failure by phase



### Interpretation

These findings provide strong statistical and visual evidence of a significant regression in academic progression following the COVID-19 school closures. The chi-square tests and linear regression analysis confirm a substantial increase in grade failures beginning in the post-2020 period. The regression model indicated a significant linear upward trend from 2017 to 2023, with an average increase of approximately 13.6 failures per year ( $p = .047$ ). The model’s coefficient of determination ( $R^2 = .58$ ) shows that 58% of the variance in grade failures is explained by the passage of time, underscoring the severity of the post-COVID escalation (Ardington & Spaul, 2022; Department of Basic Education, 2021).

This inflection aligns with the COVID-19 lockdown period, with the steepest increases emerging from 2021 onward. Particularly affected were learners in the Foundation Phase during the lockdown (Grades R–3) as seen in Figure 3, whose disrupted early literacy and numeracy development led to compounding academic difficulties that became increasingly evident in intermediate and senior grades. These results underscore the interrupted foundational education’s cumulative and delayed impact on long-term learner progression (Ardington et al., 2021; Van der Berg et al., 2022; World Bank, 2022). Overall, these findings appear to be more reflective of the broader FDP than of the specific characteristics associated with the DD group.

## Discussion

FDP is introduced in this study as a distinct construct, and its use should not be conflated with existing but imprecise descriptors such as *pseudo-dyslexia* or *academic learning delay*. While these terms have been used in the literature to describe learners who struggle with literacy acquisition for reasons other than DD, they often lack contextual specificity and diagnostic clarity. By contrast, FDP is explicitly defined here as a delay in the acquisition of foundational reading skills caused by disrupted or insufficient early literacy instruction, particularly in the context of COVID-19 school closures. Maintaining this distinction underscores the novelty of the concept and strengthens its explanatory and diagnostic value in the current study.

Building on this conceptual framework, the study illuminates the contextual, developmental, and systemic factors that contribute to poor reading proficiency among learners referred for academic support in a high-needs South African primary school. By examining three exclusionary risk factors: mismatch between HL and LoLT; non-attendance of Grade R; and a history of grade repetition; across both the entire referred group and in diagnostic subgroups of DD and FDP, this research sheds light on the complex interplay between intrinsic and extrinsic drivers of literacy failure. Furthermore, the investigation into cumulative grade failures before and after the COVID-19 lockdowns situates these findings in the broader socio-educational disruptions documented in the South African and international literature (Ardington et al., 2021; United Nations Educational, Scientific and Cultural Organization, 2022).

### Language mismatch as a systemic risk factor

Among all exclusionary variables analysed, the mismatch between HL and LoLT emerged as the most pervasive and statistically significant factor, affecting 91% of referred learners and 100% of those diagnosed with DD. This prevalence far exceeds baseline expectations in similarly resourced South African schools (Spaull & Pretorius, 2019), confirming that language barriers remain a major contributor to academic underperformance in linguistically diverse and under-resourced contexts.

The cognitive load associated with learning to read in a language other than one’s mother tongue is well-documented (Cummins, 2000; Heugh, 2022), and these challenges are

compounded for learners with DD, who face intrinsic difficulties in phonological processing, decoding, and working memory (Peterson & Pennington, 2015). Multilingual classrooms in South Africa present both challenges and opportunities. Language barriers often hinder effective communication and learning, affect learners' ability to fully participate in education and sometimes exacerbate feelings of isolation among students of different linguistic backgrounds (Masunungure & Maguvvhe, 2025; Mouboua et al., 2024). Conversely, culturally diverse multilingual settings can foster social equity, inclusion, and peer interactions that promote respect and collaboration (Musundire, 2025). Strategies such as differentiated instruction and culturally relevant pedagogy can mitigate these barriers and improve literacy outcomes while cultivating enriched learning environments that value linguistic and cultural diversity (Mokikwa & Mokhele-Ramulumo, 2024).

The universal presence of HL–LoLT mismatch in the DD group suggests a compounding effect, wherein intrinsic dyslexic vulnerabilities are exacerbated by linguistic misalignment (Shaywitz & Shaywitz, 2020). Conversely, the high prevalence of this factor in the FDP group (88.7%) reinforces findings from research on non-dyslexic poor readers, where systemic and contextual barriers, rather than neurocognitive impairments, impede literacy acquisition (Peterson & Pennington, 2015). These results extend the literature by demonstrating the dual impact of language mismatch across both neurodevelopmental and context-driven reading difficulties in post-COVID South African classrooms.

#### Non-attendance of Grade R and foundational skill deficits

The second most prevalent factor was the absence of formal Grade R attendance, observed in 62.8% of referred learners, significantly higher than national averages (Department of Basic Education, 2019c) and statistically divergent from expected rates ( $z = 9.51, p < .001$ ). While this variable did not significantly differentiate between DD and FDP groups, its implications are profound, particularly for FDP learners.

Grade R provides crucial preparation in phonological awareness, emergent print concepts, and early vocabulary, all foundational to successful decoding and comprehension in later grades (Cortázar et al., 2019; Department of Basic Education, 2019c). The absence of such early exposure appears to contribute to slower literacy acquisition, especially when compounded by later instructional disruptions arising from COVID-19 (Spaull et al., 2021). In the FDP group, non-attendance aligns with a broader pattern of interrupted or inadequate early instruction, supporting the conceptualisation of FDP as a contextually driven literacy delay rather than a neurodevelopmental disorder. This finding resonates with international studies that have highlighted the critical role of early childhood education in literacy trajectories (Majorano et al., 2021; Neuman & Cunningham, 2009).

#### Grade repetition as a symptom of academic delay

Approximately 32% of referred learners had repeated at least one grade, but there was no significant differentiation between DD and FDP groups. This aligns with prior research suggesting that grade repetition is a common consequence of literacy difficulties but not a

reliable diagnostic indicator of DD (Ikeda & García, 2013). In the FDP group, repetition appears to reflect reactive educational triage rather than intrinsic deficits, consistent with studies linking repeated grades to inadequate instructional support (Jimerson et al., 2006).

The psychological and academic costs of repetition, including decreased motivation, social stigma, and increased dropout risk, are well-documented (Jimerson et al., 2006). That these outcomes were observed across both groups highlights the systemic failures in early intervention, confirming previous findings on the compounded effects of poverty, instructional discontinuity, and post-colonial educational inequities (Spaull & Pretorius, 2019; Taylor & von Fintel, 2016).

### Cumulative increase in grade failures post-COVID

A particularly striking finding was the 122% increase in cumulative grade failures following COVID-19 lockdowns, with the most severe spikes in Grades 2, 3, and 7. These grades correspond to pivotal literacy consolidation and transition years, suggesting that instructional losses during lockdowns had a cascading effect on learners' trajectories (Ardington et al., 2021; United Nations Educational, Scientific and Cultural Organization, 2022).

These findings confirm and extend international research on pandemic-related learning losses (Van der Berg & Böhmer, 2025), while providing new evidence for the South African context. They reinforce the need for distinguishing DD from FDP; while both groups experience reading difficulties, FDP learners are disproportionately affected by disrupted foundational instruction rather than inherent neurocognitive deficits. This distinction provides empirical support for the dual-pathway model proposed in this study, in line with Peterson and Pennington's (2015) framework for non-dyslexic poor readers.

### Implications for diagnosis, support, and policy

The results underscore the importance of context-sensitive diagnostic frameworks. HL–LoLT mismatch, Grade R non-attendance, and cumulative grade failure serve as key risk indicators, reinforcing the distinction between DD, characterised by inherent neurocognitive impairments corroborated by family history and early teacher concerns, and FDP, driven by educational disadvantage and systemic neglect. Misdiagnosing FDP as DD risks pathologising children whose challenges are contextually rooted, while failure to identify DD may obscure the need for targeted cognitive and phonological interventions (Farajzadeh et al., 2024; Fine, 2023).

### Limitations

A primary limitation of this study is the small sample size of the DD group ( $n = 9$ ). This limited number reduces statistical power, making it difficult to detect true differences between the DD and FDP groups and limiting the generalisability of the comparative findings. As a result, definitive conclusions about differences between these groups should be interpreted with caution. Additional limitations include the absence of longitudinal learner

tracking that prevents establishing causal links between early educational disruptions and later academic outcomes. Contextual variables such as teacher quality, school resources, and home literacy environment, though likely influential, were not directly measured. Pandemic-specific confounding factors including emotional distress, family economic instability, and inconsistent parental support during lockdowns may have independently influenced reading outcomes, thus complicating the isolation of effects attributable specifically to foundational delays. Finally, although the FDP construct is grounded in empirical and conceptual rationale, further validation across diverse settings is required to establish its diagnostic reliability and practical utility.

## Conclusion

This study underscores the critical importance of contextualising reading difficulties in the socio-educational realities of post-COVID South Africa. The high prevalence of HL–LoLT mismatch and lack of Grade R attendance among referred learners highlights the compounded impact of systemic inequities, disrupted early education, and linguistic barriers on literacy development. While DD remains a valid and distinct neurodevelopmental disorder, the emergence of a large group of learners who display significant reading challenges without meeting the criteria for DD supports the need for the new diagnostic category of Foundational Delay Phenomenon (FDP). Recognising FDP as a distinct outcome of foundational learning disruption enables more accurate diagnosis and appropriate educational responses. These findings call for a nuanced diagnostic framework that transcends traditional deficit models by integrating contextual adversity into assessment practices. This ensures that intrinsic and extrinsic contributors to reading failure are systematically identified, differentiated, and addressed through evidence-based intervention.

## Recommendations

To address literacy challenges in multilingual, resource-constrained environments, the following targeted recommendations integrate evidence-based interventions, teacher development, and research priorities that should inform policy and practice.

### School-level interventions

- Early language screening: Implement routine assessments in Grade R and Grade 1 to identify HL and LoLT mismatches, thus enabling early detection of learners at risk of foundational literacy delays, such as Functional Difficulties in Reading (FDR).
- Intensive literacy support: Provide small-group, phonics-based reading interventions that focus on oral language development for learners with cumulative grade failure, particularly in high-needs areas.
- Enhanced Grade R access and attendance: Expand access to quality Grade R programs through community outreach, transport subsidies, and infrastructure improvements, especially in rural and informal settlements, to boost early literacy foundations.

- Multilingual resources: Ensure availability of graded readers and instructional materials in learners' home languages to reduce HL–LoLT barriers and support literacy development.

### Teacher training and professional development

- FDP and diagnostic training: Integrate modules on FDP identification, contextual risk factors, and referral pathways into pre-service and in-service teacher education to distinguish FDP from DD and improve intervention accuracy.
- Multilingual and differentiated pedagogy: Equip educators with strategies for scaffolding literacy across diverse linguistic profiles, including code-switching, visual aids, peer-assisted learning, and culturally responsive teaching methods.
- Collaborative support systems: Establish multidisciplinary teams (teachers, speech-language therapists, educational psychologists) to facilitate nuanced diagnosis and tailored intervention planning.
- Ongoing mentorship: Provide continuous professional development and mentorship to support teachers in implementing inclusive literacy instruction and navigating complex learner profiles, particularly in post-COVID contexts.

### Policy recommendations

- Mother-tongue instruction: Prioritise access to mother-tongue or closely aligned language instruction in the foundational phase to mitigate HL–LoLT mismatch, a key predictor of reading difficulties.
- Context-sensitive diagnostic frameworks: Endorse FDP as a distinct category from DD to prevent misdiagnosis and ensure interventions address contextual learning delays rather than solely neurodevelopmental issues.
- Post-pandemic literacy recovery: Allocate funding for targeted interventions to address foundational learning losses exacerbated by COVID-19, focusing on early-grade learners in underserved communities.

### Future research directions

- Conduct large-scale, longitudinal studies across diverse educational contexts to validate the FDP construct, refine diagnostic criteria, and assess intervention responsiveness and psychosocial outcomes.
- Investigate early indicators of HL–LoLT mismatch and Grade R absence to proactively identify at-risk learners and inform scalable, contextually relevant strategies for post-COVID South African classrooms.

By implementing these integrated recommendations, South African education systems can advance equitable literacy outcomes, reduce the prevalence of reading difficulties, and foster learner success across diverse linguistic and socioeconomic backgrounds.

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