# Literacy Development of Students of Mexican Descent in the Rio Grande Valley: Implications & Challenges for Science of Teaching Reading

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**Abstract**

Hispanic literacy development in the Southwestern United States is examined through standardized assessment data derived from recent National Assessment of Educational Progress (NAEP) and Texas Academic Performance Reports (TAPR). This longitudinal study focuses on significant variables across a spectrum of grade levels for Hispanics of Mexican descent. Results confirm the existence of a Fourth-grade Slump indicative of a steady decline in reading performance after fourth-grade. At the secondary level, a corresponding Matthew Effect is also detected—whereby students who decline in fourth-grade continue to decline in high school. Socioeconomic status (SES) and gender are correlated as mitigating factors for reading performance. Hispanic students who attended a more affluent high school overall showed moderately better reading scores. Hispanic males performed lower than females. Hispanic males with low SES are identified as being the most at-risk for reading failure in this region. Remediations recommended for alleviating these developmental literacy challenges include a rigorous implementation of Science of Teaching Reading (STR) especially at the earlier grade levels, as well as a promoting a positive awareness about the value of literacy across home, school, and community. Educators and administrators interested in Hispanic reading development along the Rio Grande Valley should find this longitudinal study informative.

## Introduction

This study delves into the dynamics of literacy development within the Southwestern US, particularly addressing the concerning trend of declining literacy rates among Hispanic students of Mexican descent. Educators face a pivotal challenge in addressing this trend, and as someone deeply involved in preparing future educators, I feel compelled to not only analyze the situation but also convey its stark reality to teacher candidates as they prepare to enter the classroom. Amidst advocating for comprehensive literacy instruction for all children, it's undeniable that Hispanic students of Mexican descent are currently grappling with a crisis as literacy scores continue to plummet.

The Hispanic population continues to grow across the US, and recent immigration reflects an influx of new immigrants from Latin America. Recent estimates indicate that there are about 21 million immigrants living in the US, and about 7 million of those are undocumented (Ruggles et al., 2021). The dominant group within

recent Hispanic immigration is of Mexican descent with some estimates indicating immigrants of Mexican descent comprise over 60 percent of the recent documented and undocumented immigrants to the US (CMS, 2022). This research has generalizable implications for understanding patterns in literacy development in other regions with increasing Hispanic immigrant populations.

I examined the scope of literacy development across grade levels and analyzed how data might affirm certain variables across elementary- and secondary-school settings. Researchers have known how fourth-grade marks a critical juncture for some children because reading performance begins to decline (Sanacore & Palumbo, 2008). Children transition from a developmental phase for *learning-to-read* to actively applying learned reading skills. Early childhood reading instruction is focused between kindergarten to third grade. Effective literacy instruction in the early grades lays a foundation for optimal literacy benefits as children progress through subsequent grades (Hall, 2013). Upon entering fourth-grade, children transition into the *reading-to-learn* phase and apply those learned skills across a variety of academic subjects.

Consequently, the emphasis shifts toward reading proficiency to comprehend and engage newly introduced content-area subjects that can include social studies, mathematics, science, and literature. Children who still have not grasped foundational reading skills in earlier grades may now struggle to compensate for the increasing demand and complexity of these reading materials. Additionally, the integration of unfamiliar academic vocabulary unique to particular content areas further amplifies their reading challenge. As a result, some students can experience a loss of motivation and develop negative self-perceptions about their reading abilities. For many children, this *fourth-grade slump* does become a permanent obstacle.

A corollary literacy variable known as the *Matthew Effect* (Stanovich, 2009) describes how children who decline in reading performance in elementary continue to do so in secondary settings. The *Matthew Effect* reveals the growing intensity of poor reading performance. As children progress as young adolescents in high school, reading demands continue to increase in rigor. Therefore, understanding and addressing the *fourth-grade slump* is critical for ensuring positive literacy development and subsequent academic success.

The decline in literacy rates has been attributed to several factors. Most notably, poor teaching methods are largely to blame for poor reading performance (Moats, 2014; Honig, Diamond, & Gutlohn, 2018). Reading instruction across the United States has been in transition and moving away from whole-language and balanced literacy approaches which have been viewed as failure especially when implemented with minority populations (Moats, 2007). The Reading Wars, a term used to describe the division between whole-language, balanced literacy and skills-based phonics methods occurred over the span of the previous six decades (Pearson, 2004; DeJulio, et al, 2024). The latest iteration of the Reading Wars has seen the debate somewhat mollified as the Science of Teaching Reading, also known as the Science of Reading, continues to grow as settled education policy in over 37 states, including the District of Columbia, across the US (Schwartz, 2024).

This study is driven by the imperative to shed light on these pressing issues. The following research questions guided the present study:

1. What is the status of literacy development among public-school children in the Laredo region?
2. How does data correspond or detract from the existence of a *Fourth-grade Slump* and *Matthew Effect*?

By addressing these questions, we aim to not only identify the reality of literacy development among Hispanics and also begin to lay the groundwork for designing better informed interventions.

## Method

This longitudinal study collected standardized assessment data from the elementary- and secondary-school performance of Hispanic students. Although the data sample is not a cohort study that would reflect a consistent same-student sample, it could be described as a cross-sectional data sample of students within a comparable Hispanic category. The methodology for this study involved sourcing data from two primary datasets: the National Assessment of Educational Progress (NAEP) dataset, which served as a national benchmark for standardized assessment, with correlations drawn specifically to Texas, and the Texas Academic Performance Report (TAPR) dataset, which focused on standardized assessment data from the two largest school districts in Laredo, Texas.

Within the TAPR dataset, a further disaggregation was performed to examine reading development across elementary and secondary schools. The study utilized the most recent available data. The geographic setting for the more focused data collection from Laredo, Texas, represented how the majority of the Hispanic sample would be derived from students of Mexican descent; a term I use to correlate both Mexican American and Mexican immigrant student populations. Hispanics of Mexican descent are by far the dominant ethnic majority in the Laredo region.

NAEP data was analyzed to interpret overall 4th and 8th grade reading performance (NAEP, 2022). Assessment scores were obtained from the Texas Education Agency (TEA) database for the most recent TAPR reports from the two largest independent school districts (ISDs) in Laredo, namely, United ISD and Laredo ISD (TAPR, 2021). Additionally, focus was placed on the two predominant high schools within these districts: Martin High School for Laredo ISD and United High School for United ISD. Reading assessment data within the TAPR comprised standardized test scores from annual assessments known as the State of Texas Assessments of Academic Readiness (STAAR).

At the time of the study, Laredo ISD had a student population of approximately 20,000, while United ISD had double that number, at around 40,000. Both districts exhibited an enrollment with roughly equal numbers of male and female students. Laredo ISD predominantly comprised Hispanic students of Mexican descent, while United ISD boasted a more diverse student population, albeit with a significant proportion of Hispanic students of Mexican descent. Student assessment data from Laredo ISD could be attributed to Hispanics of Mexican descent, comparative data from United ISD could not be disaggregated concerning race and ethnicity and these scores as an aggregate composite across several diverse student groups. Although an equal number of male and female students attended both Laredo ISD and United ISD, literacy scores could not be disaggregated by gender for both districts and were presented as a composite. NAEP data did allow for gender differentiation, and certain

projections regarding Hispanic females performing better than Hispanic males could be assumed based on the patterns within those datasets that allowed for gender differences.

**Data Analysis Criteria**

In this study, data collection criteria were established based on the classification of student competence in reading across three levels: frustration, instructional, and independent. These levels are not static but evolve with grade progression, reflecting the increasing rigor of reading material as children advance through school. What may pose a challenge at the frustration level in kindergarten could represent an instructional level by 2nd grade. Consequently, teachers target instructional reading levels, slightly above a child's comfort level, as this fosters continued improvement and readiness for more challenging material. Proficiency at grade-level reading is pivotal for future academic success.

Given this context, the focus of data collection was on indicators of above-average competency in reading. The National Assessment of Educational Progress (NAEP) defines this as the "Proficient" level, while the Texas STAAR standardized assessment equivalent is termed "Masters Grade Level." These levels serve as appropriate benchmarks for successful grade-level classroom participation. While advanced reading levels are desirable, they often represent outliers, particularly for Hispanic and Black student groups, due to consistently low numbers. The below basic and basic reading categories encompass failing and below-average performance, rounding out the percentages. The trajectory of these reading levels was examined within the Hispanic category from elementary to high school. While generalized assessment data across districts and state averages were considered, a focused analysis was conducted on secondary students from two representative high schools in each Laredo district. This examination aimed to explore the phenomenon of the Fourth-grade Slump and its corresponding Matthew Effect.

## Results

The NAEP 2022 overall student assessment data for fourth-grade reading at the *proficient* level is decidedly low but stable within aggregated scores for all students that range between 23 to 24 percent of the total fourth-grade population across the US and Texas (see Table 1):

Table 1. NAEP 2022 Achievement-Level Percentages

| | Basic | Proficient | Advanced |
|---|---|---|---|
| Texas | 28 | 23 | 7 |
| Nation | 29 | 24 | 8 |

When NAEP scores are disaggregated by race and ethnicity, Hispanic and Black scores for fourth-grade reading achievement reflect a nominal decline between 19-20 percent when compared to White and Asian groups (see Table 2):

Table 2. NAEP 2022 Student Group Percentages

| Texas | Basic | Proficient | Advanced |
|---|---|---|---|
| Asian | 92 | 71 | 31 |
| White | 74 | 44 | 10 |
| Black | 49 | 19 | 3 |
| Hispanic | 48 | 20 | 3 |

At a national level, only approximately one-fourth of fourth graders demonstrate proficiency in reading. However, when we analyze the data by disaggregating race and ethnicity, we find that only about one-fifth, or one out of every five, Black and Hispanic fourth graders achieve proficiency in reading. In contrast, half of all white students exhibit proficiency in reading, while Asian students achieve the highest proficiency rates, with over 70 percent demonstrating reading proficiency. Additionally, seven out of ten Asian students achieve proficiency in reading, with three out of ten reaching an advanced level.

Turning our focus to the Southwestern region of Laredo, Texas, where the predominant student group comprises Hispanics of Mexican descent, with varying proportions also in different stages of English language acquisition, we observe notable patterns. Analyzing the results from Laredo ISD, we find that third graders demonstrate reading proficiency levels consistent with the NAEP national average for all students and slightly above the Texas average of 20 for Hispanic students. However, as Hispanic students progress through subsequent grade levels, their reading proficiency scores exhibit a concerning decline. By fourth grade, Hispanic students' reading proficiency drops to only fifteen percent. This downward trend continues, with proficiency rates declining further to eleven percent by eighth grade. By the time students reach high school and undergo their final standardized reading assessment in the tenth grade, their proficiency rates plummet to six percent (see Table 3).

Table 3. TAPR 2023 Laredo ISD Student Group Percentages

| | Approaches Grade Level | Meets Grade Level | Masters Grade Level |
|---|---|---|---|
| Grade 3 Reading | 75 | 50 | 23 |
| Grade 4 Reading | 78 | 42 | 15 |
| Grade 8 Reading | 81 | 35 | 11 |
| Grade 10 Reading | 64 | 50 | 6 |

The data unequivocally confirms the presence of a fourth-grade slump and the corresponding Matthew Effect among Hispanic students within Laredo ISD. For Hispanics of Mexican descent in Laredo, English literacy skills begin to decline almost as soon as they begin their formative educational experiences at fourth grade and many of these students do not recover as they move on to high school. However, to comprehensively understand the gravity of the rapidly escalating literacy crisis among Hispanics of Mexican descent in Laredo, Texas, it is imperative to consider additional mitigating factors.

An examination of how English Language Learner (ELL) status influences these scores unveils intriguing

insights. In Laredo ISD, a substantial portion of the student population in the 3rd, 4th, and 8th grades comprises ELLs who participate in the assessments as they approach grade level. Remarkably, nearly three-quarters of these grade levels consist of ELLs. Interestingly, the reading proficiency of ELLs remains relatively consistent across these grade levels, exhibiting a notable decline only at the 10th grade level, where a mere one percent of ELL students demonstrate reading proficiency. The decreasing trend in the ELL population at the high school level may suggest either their transition out of the ELL program as they achieve proficiency in English, ELLs may also choose to dropout of school, or a surge in newly arrived ELL immigrants were more concentrated in the lower grade levels within Laredo ISD and still not transitioned to the latter grade levels (see Table 4).

Table 4. TAPR 2023 Laredo ISD Percentage of ELLs in Category

| | Approaches Grade Level | Meets Grade Level | Masters Grade Level |
|---|---|---|---|
| Grade 3 Reading | 73 | 48 | 22 |
| Grade 4 Reading | 76 | 46 | 20 |
| Grade 8 Reading | 73 | 38 | 12 |
| Grade 10 Reading | 48 | 21 | 1 |

These findings shed light on the complex interplay between linguistic proficiency, grade progression, and educational outcomes among Hispanic students in Laredo, underscoring the urgency for targeted interventions to address the evolving needs of this demographic.

Upon examining the data from United ISD, a notable trend emerges: reading proficiency remains relatively stable in third and fourth grades, with a slight increase observed in eighth grade. However, there is a noticeable decline in proficiency scores by 10th grade. It is important to note that the scores for United ISD represent a composite across multiple student groups which include Hispanic, White, Black, and Asian students. Consequently, it is challenging to accurately disaggregate these numbers to isolate the performance of Hispanic students in these reading outcomes. These scores are combined with student groups that we know to be high performing and don't provide an isolated sample needed to confirm Hispanic performance (see table 5).

Table 5. TAPR 2023 United ISD Student Group Percentages

| | Approaches Grade Level | Meets Grade Level | Masters Grade Level |
|---|---|---|---|
| Grade 3 Reading | 81 | 58 | 26 |
| Grade 4 Reading | 81 | 54 | 27 |
| Grade 8 Reading | 89 | 67 | 36 |
| Grade 10 Reading | 81 | 59 | 9 |

Results also revealed how social class might mitigate differences in reading performance even at a nominal scale. Of the two largest school districts in the Laredo region, United ISD could be considered as being moderately more affluent with 59% of the student population being identified as economically disadvantaged. In

contrast, 98% of the students in Laredo ISD, practically the entire student population in the district, is identified as being economically disadvantaged. The number of students who qualify for free-and-reduced meals at school are used calculate the percentage of economically disadvantaged students. Thus, the outcomes for United ISD are somewhat more favorable due to slightly elevated social class and a slightly more diverse student population. However, it should be noted that if we were to disaggregate the Hispanic student sample from United ISD, we would most likely observe similar findings with regards to exponential declines in literacy performance as students progress from elementary to secondary school.

## Discussion and Conclusion

During the previous quarantine, schools were shuttered and children fell behind in their reading development. Black and Hispanic student populations were impacted more than other student groups because their literacy scores were low prior to the quarantine and continued to decrease. The data underscores the persistent challenge faced by educators in addressing the ongoing lack of literacy development among Hispanic student populations. While this deficit is often linked to factors associated with English Language Learners (ELLs), such as the demands of acquiring English proficiency, it is essential to recognize variations in ELL enrollment across different student demographics. Socioeconomic factors also play a role in shaping ELL enrollment rates, as evidenced by the significant disparity between Laredo ISD and United ISD, where 55% and 14% of students are identified as ELLs, respectively. In Texas, standardized testing is conducted exclusively in English, with ELLs provided moderate accommodations such as extended testing time and access to bilingual dictionaries. However, it's crucial to note that assessments like the State of Texas Assessments of Academic Readiness (STAAR), which serve as the basis for gauging literacy status, are not translated into students' native languages.

Initial analysis of the data prompted reflections on the evolving role of reading in education, with some suggesting that technological advancements might diminish the significance of traditional literacy skills. However, it's evident that literacy remains a cornerstone of education, serving as the gateway to understanding complex concepts across various subjects. Indeed, scholars like Maryanne Wolfe (2018) emphasize the profound impact of deep reading skills on future professional success, highlighting how proficiency in this area could increasingly delineate between socioeconomic classes in future generations. Literacy, therefore, emerges as a pivotal educational skill with far-reaching implications for individuals' academic and professional trajectories.

The findings of this study reaffirm a long-standing understanding among educators: children from low socioeconomic backgrounds face greater challenges in achieving reading proficiency compared to their more affluent counterparts. Well-documented phenomena such as the *fourth-grade slump* and the *Matthew Effect* persist, disproportionately affecting the educational outcomes of African American and Hispanic students. However, recent policy shifts offer a glimmer of hope, shedding new light on these entrenched issues. In 2019, the 86th Texas Legislature introduced the Science of Teaching Reading as the official reading policy in Texas, signaling a concerted effort to address the root causes of low literacy performance (Texas Administrative Code, 2020). This legislative move mirrors similar initiatives underway in many other states nationwide, all aimed at

tackling the persistent problem of inadequate literacy skills among growing minority populations.

By gaining insight into the current literacy landscape, particularly among specific Latino and Mexican descent populations, educators and administrators can strategically direct resources and interventions where they are most needed. This targeted approach holds the promise of narrowing the achievement gap and fostering equitable educational opportunities for all students, regardless of socioeconomic background.

## Recommendations

Teacher candidates entering the field of education in the Rio Grande Valley are confronted with the stark reality of low literacy development among Hispanic students. Ignoring this pressing literacy crisis only compounds the challenges novice educators face in the classroom. The findings of this study should serve as a foundational reference point for ongoing analyses of literacy scores as we transition into an era driven by the Science of Teaching Reading curriculum. It is recommended that this longitudinal study serve as a baseline reference for subsequent analysis about how the recent authorization of Science of Teaching Reading policy has impacted developmental reading abilities for Hispanics in the Southwestern US.

Our longitudinal investigation revealed a promising trend: Hispanic children of Mexican descent, even those from moderately improved socioeconomic backgrounds, exhibit enhanced reading performance over time. However, those with deficient literacy skills suffer the consequences of limited engagement with educational opportunities, hindering their upward social mobility.

A critical inquiry persists regarding why Asian American and White student groups consistently outperform Black and Hispanic students in the United States. Addressing literacy development in early childhood settings holds the potential for significant long-term benefits. Future research should delve deeper into early childhood environments, exploring how cultural practices either facilitate or impede positive literacy skill development.

Existing research underscores the gendered nature of reading development (Smith & Wilhelm, 2002; Godina & Soto-Ramirez, 2017), and I postulate from the trends within current and past research that young males of Mexican descent in low SES settings are particularly vulnerable for reading failure. These students often fall victim to systemic shortcomings within the educational system such as the lack of quality literacy instruction and lack of support for their native language as they learn English. More emphasis needs to be placed on the unique trajectory and pitfalls of literacy development for Hispanic male ELLs.

Recent well-intentioned interventions, such as public displays encouraging personal reading commitments, while admirable, fall short of addressing the fundamental issue of inadequate structured literacy instruction in public schools. Children cannot bear the sole responsibility for their literacy development; it requires concerted efforts from parents, caregivers, educators, administrators, and policymakers.

During the quarantine period, there was a notable shift towards digital instruction, a trend that persists in public

schools. However, the long-term effects of the emphasis on digital technology, especially as a substitute for traditional literacy instruction, remain uncertain (Buck, 2024). Further research is necessary to examine how prolonged digital exposure impacts struggling readers and to advocate for an approach that prioritizes physical reading and writing activities, fostering a connection with tangible books over excessive screen time.

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