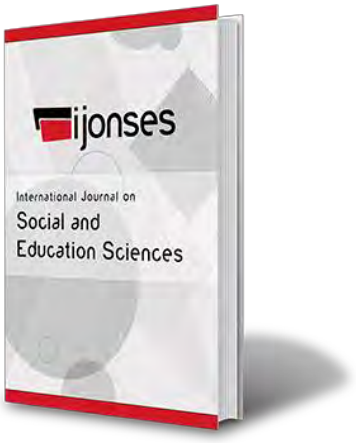


www.ijonses.net

# Longitudinal Analysis of Hispanic Literacy Development in the Southwestern US: Addressing the Fourth-Grade Slump and Corresponding Matthew Effect

**Heriberto Godina**
Texas A&M International University, United States

**To cite this article:**

Godina, H. (2024). Longitudinal analysis of Hispanic literacy development in the Southwestern US: Addressing the fourth-grade slump and corresponding Matthew Effect. *International Journal on Social and Education Sciences (IJonSES), 6*(4), 517-534. https://doi.org/10.46328/ijonses.693

International Journal on Social and Education Sciences
2024, Vol. 6, No. 4, 517-534 https://doi.org/10.46328/ijonses.693

# Longitudinal Analysis of Hispanic Literacy Development in the Southwestern US: Addressing the Fourth-Grade Slump and Corresponding Matthew Effect

**Heriberto Godina**

## Article Info

***Article History***

Received:
01 June 2024
Accepted:
12 September 2024

***Keywords***

Science of teaching
Reading
Literacy education
Hispanic
Matthew effect

## Abstract

Hispanic literacy development in the Southwestern US 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 a steady decline in reading performance after 4th grade. At the secondary level, a corresponding *Matthew effect* is also detected—whereby students whose reading development begins to decline in 4th grade continues to decline in secondary grades. Socioeconomic status (SES), gender, and bilingual language development are correlated as mitigating factors for reading performance. Hispanic students who attended a slightly more affluent and racially diverse high school showed moderately better reading scores. Hispanic males with low SES should be seen as most at-risk for reading failure in this region. Recommendations for alleviating these developmental literacy challenges include a more systematic implementation of *Science of Teaching Reading* (STR) at the earlier grade levels and raising awareness about gender differences in reading instruction. Parents, educators, and administrators interested in Hispanic reading development should find this study informative.

## Introduction

Understanding the low literacy status of Hispanics has implications for other geographic locales as the Hispanic population continues to grow across the US. 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). Hispanic immigration is mostly of Mexican origin with some estimates indicating that Hispanics of Mexican descent comprise over 60 percent of recent documented and undocumented immigrants to the US (CMS, 2022). Examining the literacy performance of Hispanic populations in one setting can have generalizable implications for understanding literacy development in other regions of the US. The present study examines literacy development across a span of grade levels to find if certain variables persist. By doing so, the present longitudinal study looked to strengthen predictive validity and perhaps allow interventions for these growing populations to achieve a more positive outcome for literacy development. Educators face a serious challenge for understanding and addressing the present-day literacy

status within the Laredo region. I am involved in preparing future educators and feel compelled to analyze the situation and convey a stark reality to my teacher candidates. I am an advocate for literacy instruction for *all* children, but it's undeniable that Hispanic students of Mexican descent are in a present-day literacy crisis.

**Fourth-Grade Slump as a Literacy Juncture**

Effective literacy instruction in the early grades lays a foundation for academic success as children progress through subsequent grades (Hall, 2013). A significant transitional period for many children occurs about 4th grade because they begin to engage in more academically rigorous instruction. Researchers recognize 4th grade as a shift in literacy development where children meet substantial changes and demands upon their nascent reading abilities (Pressley et al., 1998; Suhr et al., 2010). Earlier grades, between kindergarten up to 3rd grade can be considered as a literacy preparation phase because the curricular emphasis is on learning-to-read. Upon entering 4th grade, children then transition into the reading-to-learn phase, applying their acquired skills across various academic subjects. Children encounter more accountability in their reading demands with a growing emphasis to understand and engage newly introduced content areas that can typically include social studies, mathematics, science, and literature. Additionally, the integration of unfamiliar academic vocabulary specific to content-area instruction further amplifies the reading challenge. Children who have not yet mastered foundational reading skills, who did not learn to read in their initial years of elementary school, may struggle to meet the increasing demands and complexity of more substantive reading materials. For these reasons, 4th grade is often described as a "slump," marking a boundary where reading performance may begin to decline (Sanacore & Palumbo, 2008). For many children, this 4th grade slump becomes a persistent obstacle that leads to ongoing struggles with reading up to high school and beyond. As a result, some students may experience a loss of motivation and develop negative self-beliefs about their reading abilities. Children may learn to dislike reading instruction altogether because they are constantly reminded of their lack of competency in routine classroom tasks. Children who do not learn how to read in the early grades face profound consequences as their opportunities for upward social mobility are similarly diminished. Understanding and addressing the 4th grade slump is critical for ensuring a positive literacy trajectory and later academic success.

**Matthew Effect as a Literacy Binary**

The phenomena of children who perform progressively worse in school has not gone unnoticed. A corollary literacy variable known as the *Matthew effect* (Stanovich, 2009; Walberg & Tsai, 1983) has been useful for describing how children who decline in reading performance in elementary grades continue to decline in secondary grades. Adapted from the *Parable of the Talents* from the biblical story of Matthew (Matthew, 25:29, New International Version), whereby a master leaves his home and entrusts his servants to manage portions of his wealth. Upon his return, he encounters how some servants multiplied his wealth while he was away, but some servants did not. In a sense, the parable is an analogy on how the rich-get-richer and the poor-get-poorer over time because a person is applying their skills to effective use. Applied to a literacy context, the analogy describes how some readers get progressively better at reading over time, and some unfortunately continue to get worse. The Matthew effect reflects the growing intensity of poor reading performance across grade levels, but it also describes

how children who learn to read well in early grades progressively become even better readers in high school. The Matthew effect reveals a growing separation between good and bad readers. The Matthew effect in reading has been pivotal for understanding how children evolve with their reading abilities. In a comprehensive meta-analysis of research on Matthew effect, findings were inconclusive in terms of disproving the validity of the theory and argued that a Matthew effect was more likely to occur for measures of decoding efficiency, vocabulary, and composite reading scores (Pfost et al., 2014). While these reading deficiencies can be remediated through systematic and diagnostic reading instruction, some influences can be more daunting. We know that children with disabilities are more likely to have lingering challenges that typically reflect a Matthew effect (Sideridis, 2011). Thus, Matthew effect can be used to understand reading success or failure, but understanding the underlying social and instructional characteristics that influence how this variable works would also be important to consider.

**From Literacy Stagnation to STR Legislation**

Hulbig (2024) described how literacy scores for the US population have remained relatively flat despite policy interventions such as the *No Child Left Behind Act of 2011* that sought to increase accountability in public schools (Linn, Baker, & Betebenner, 2022). Children also underwent a disruption in proper literacy instruction during COVID quarantine (World Health Organization, 2020). School closures in the US began in early 2020 and continued in many states up to 2023 (Zviedrite et al., 2021). Many children were compelled to stay home from school and transitioned from physically attending school classrooms to learning on computer screens at home (Read et al., 2022). Prior to COVID quarantine, literacy scores in the US had been relatively stagnant as noted by Hulbig (2024), but children who transitioned to learning at home most likely spent too much time on computer screens and were separated from the physical presence of a teacher who could provide face-to-face literacy instruction.

Additionally, poor teaching methods are also blamed for inadequate reading performance (Moats, 2014; Honig, Diamond, & Gutlohn, 2018). Reading instruction across the United States has similarly been inconsistent and swayed between different ideological positions on how reading could be best taught. Presently, reading instruction has been moving away from whole-language and balanced literacy approaches, which are viewed as ineffective, 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—have been argued over for the past six decades (Pearson, 2004; DeJulio et al., 2024). The latest iteration of the Reading Wars has seen the debate somewhat mollified as the STR, also known as the Science of Reading, continues to gain acceptance across the US as settled education policy in over 37 states, including the District of Columbia (Schwartz, 2024). The transition to Science of Teaching Reading emphasizes a structured literacy approach and purposefully implements strategies substantiated by educational research (Shanahan, 2020; Snowling et al., 2022). The promise of improved literacy instruction is more hopeful with the introduction of STR legislation. However, the earlier quarantine may have also left some children with a diminished momentum for structured literacy instruction as many children fell behind and are growing past the most beneficial time for literacy instruction that occurs during kindergarten to 3rd grade. Although the debate about how to best teach children how to read has been settled, the emergence of STR instruction is still a relatively new policy. Teacher candidates in the State of

Texas now must pass an STR exam to become certified teachers, and those teachers who are already certified and working in schools must undergo a yearlong STR training as an added part of their teaching duties. These changes are promising, but the aftermath of the COVID quarantine has left a less than desirable landscape for literacy reform to take hold. This study is driven by the imperative to shed light on these concerns and was guided by the following research questions: What is the status of literacy development among public-school children in the Laredo region? How does the data correspond to or detract from the existence of a 4th grade slump and the Matthew effect? By addressing these key questions, my goal has been to show the current state of literacy development among Hispanic students and 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 method for this study involved sourcing data from two datasets. Both studies used the most recent available data. The present study was exempt from Institutional Review Board (IRB) because it only used standardized assessment data normally available to the public and did not involve interaction with human subjects.

### Data Sources

The interpretation of literacy development began by examining a general national sample. First, the National Assessment of Educational Progress (NAEP) described a national benchmark for standardized assessment, and also included data specifically focused on Texas. Second, the Texas Academic Performance Report (TAPR) dataset was used to examine standardized assessment data from the two largest school districts in Laredo, Texas. Within the TAPR dataset, a longitudinal disaggregation was performed to examine reading development across elementary and secondary schools. 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: United ISD and Laredo ISD (TAPR, 2022-23). Additionally, the analysis focused on the two predominant representative high schools within these districts: Martin High School in Laredo ISD and United High School in United ISD. Reading assessment data within the TAPR comprised standardized test scores from annual summative assessments known as the State of Texas Assessments of Academic Readiness (STAAR).

### Setting and Focal Participants

The more focused data collection occurred in Laredo, Texas, and involved a predominantly Hispanic sample of students who were predominantly of Mexican descent. I use the term, *Hispanics of Mexican descent*, to describe both Mexican American and Mexican immigrant student populations. Hispanics of Mexican descent represent the dominant ethnic majority in the Laredo region, and by far the largest demographic subgroup within the general

Hispanic category in the US are similarly Hispanics of Mexican descent. As of the 2020 Census, there are about 62 million Hispanic/Latinos living in the US, and about 31 million are of Mexican origin (United States Census Bureau, 2020).

Laredo ISD has a student population of about 20,000, while United ISD has about 40,000. Laredo ISD was predominantly comprised of Hispanic students of Mexican descent, while United ISD had a slightly more diverse student population, but still with a considerable proportion of Hispanic students of Mexican descent. Student assessment data from Laredo ISD was confirmed to be attributed to Hispanics of Mexican descent, but a comparative data sample from United ISD could not be disaggregated by race and ethnicity and was presented as an aggregate across several student groups. However, the variation in race and ethnicity was negligible. At United High School, African Americans accounted for about 0.02 percent of the entire school population, Whites were about 1 percent, and Asian Americans were about 3 percent. The dominant majority was Hispanic, representing about 98.4 percent of the student population.

Both Laredo ISD and United ISD had nearly equal numbers of male and female students. At United High School, females accounted for about 48 percent of the student population, and males accounted for about 51 percent. At Martin High School in Laredo ISD, females accounted for about 49.8 percent of the student population, and males accounted for about 50.2 percent. Thus, the gender distribution was nearly equal across both districts and across both focal high schools. However, at the time of the study, literacy scores could not be disaggregated by gender for both districts and were presented as an aggregate. In contrast, NAEP data allowed for gender differences in their calculations. Therefore, some projections regarding Hispanic females performing better than Hispanic males could be inferred based on the general trajectory from the NAEP dataset. It can be assumed, when scores are presented in aggregate for gender, Hispanic females would most likely be performing better than their male counterparts.

## Data Analysis Criteria

Data analysis involved reviewing key benchmarks for reading performance across 3rd, 4th, 8th, and 10th grades. I began with a general analysis of Hispanic student performance using NAEP data for both the US and Texas. The TAPR datasets helped a particularistic analysis to confirm the existence of a 4th grade slump and the consequential Matthew effect for Hispanic populations. Using Troike's model for interpreting data from generalizable to particularistic (Saville-Troike, 2008), the general analysis derived from the NAEP dataset facilitated a more focused examination using the TAPR dataset to inform the research questions.

### *Text Complexity and Reading Proficiency*

To better understand reading development, it is necessary to consider how text reading can be interpreted across three levels: frustration, instructional, and independent (Treptow, Burns, & McComas, 2007). These levels are widely understood by reading educators. For this study, the frustration and independent reading levels were eschewed as they do not provide conclusive evidence for reading development.

Frustration level reading occurs when children can't read a certain text and can be compared to being forced to read in a foreign language without comprehension. While frustration level text is too difficult to read, independent level text is just too easy. At times referred to as the Goldilocks level, instructional level reading is interpreted as being *just right* for literacy learning (Sheehan, 2017). Independent level reading, while entertaining and comfortable for students, often involves low-rigor materials such as comic books and magazines, which do not stand for a challenge. Therefore, reading development is best understood through the instructional reading level, which is slightly above a child's comfort zone and fosters continual improvement and readiness for more challenging material. These reading levels are not static but evolve as children advance through school. Reading levels change with increasing ability and exposure to more rigorous reading materials. For example, a text that is at the frustration level in kindergarten may become instructional level by the time the child reaches 2nd grade. Teachers target instructional reading levels to promote continued progress and preparedness for more challenging text. Ability at grade-level reading is pivotal for future academic success.

Given this context, data collection focused 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 benchmarks for successful grade-level reading development. While advanced reading levels are desirable, they often stand for outliers, particularly for Hispanic and Black student groups, who share consistently sparse numbers. The below basic and basic reading categories encompass failing and average reading performance.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.

## Results

We begin with an overview of reading development at the national and state level. The NAEP 2022 student assessment data for 4th grade reading at the *proficient* level could be described as low but stable within aggregated scores for all students with a range between 23 to 24 percent of the total 4th grade population across the US and Texas. There was not much variation between US and State of Texas scores, and results showed that about one-of-four 4th graders are able to read at a proficient level (see Table 1)

Table 1. NAEP 2022 Achievement-Level Percentages

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

When we focus on the general NAEP assessment for 4th grade in the State of Texas, we can begin to discern some significant variation for Black and Hispanic students whose scores reflect a decline between 19 to 20 percent when compared to White and Asian groups whose scores are higher (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 the national level, about one-fourth of 4th graders showed proficiency in reading, and this score is a combined aggregate of all groups. However, when we focus on the State of Texas, and disaggregate the data by race and ethnicity, we find that only about one-of-five Black and Hispanic 4th graders are proficient in reading. A significantly lower number than the group aggregate score. If we examine White and Asian performance, less than half of all White students show proficiency in reading. Scores for White students in Texas are typically within the average range, and generally hover around the 50th percentile; not the highest, but not the lowest either.

**Advanced Level Reading**

About one-of-ten White students read at an advanced level. Overall, Asian students in Texas had scores that reflected the highest group scores with over 70 percent being proficient readers and over 30 percent reading at an advanced level. Thus, seven-of-ten Asian students could be said to be proficient in reading at the 4th grade. Notably, three-of-ten Asian students are at an advanced level of reading. Unfortunately, Black and Hispanic students hardly register on the advanced level at only a fraction 3 percent being to read at the advanced level for 4$^{th}$ grade. These scores stood for a general US aggregate and a more focused Texas sample that delineated reading proficiency for minority student groups in 4$^{th}$ grade. For both Black and Hispanic students, only three-out-of-a-hundred students in 4th grade could be said to be advanced readers.

**Laredo ISD in Focus**

Turning our focus to the Southwestern region of Laredo, Texas, where the predominant student group includes Hispanics of Mexican descent, with varying proportions of ELLs, we begin to see some notable patterns. Analyzing the results from Laredo ISD, we find that 3rd graders showed reading proficiency levels consistent with the NAEP national average for all students and slightly above the Texas average of 20 percent for Hispanics. However, as Hispanic students progress through later grade levels, their reading proficiency has a notable decline in *Masters Grade Level* which we will use here as a comparative measure for reading proficiency. There is no measure for advanced reading level because as noted from the earlier State of Texas sample, hardly any advanced readers were in that category. While advanced reading levels are notated in the NAEP dataset, the advanced level designation disappears altogether in the TAPR dataset. Texas Education Agency defines Masters Grade Level as having a mastery in the course knowledge and skills and that the student is considered on track for college and career readiness (Texas Education Agency, 2024).

By 4th grade, Hispanic students' reading proficiency drops to only fifteen percent with about one-of-six students

being able read at a proficient level. This downward trend continues, with proficiency rates declining further to eleven percent by 8th grade where about one-of-ten students are able to read at a proficient level. By the time students reach high school and undergo their final standardized reading assessment in the 10th grade, their proficiency rates plummet down to a disconcerting six percent. By the time a Hispanic adolescent in Laredo ISD reaches the 10th grade, only about one-of-sixteen can read at the proficient level (see Table 3).

Table 3. TAPR 2022-23 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 |

For Laredo ISD, the data obviously confirms the presence of a 4th grade slump and reflects a corresponding Matthew effect with progressively declining literacy in latter grades. For Hispanics of Mexican descent in Laredo, English literacy skills begin to decline almost as soon as they begin their formative educational experiences at 4th grade, and most of these students do not recover as they move on to high school. However, to comprehensively understand the escalation of the literacy crisis among Hispanics of Mexican descent in Laredo, Texas, it is imperative to consider added mitigating factors that are also shown in the TAPR dataset.

*ELL Population in Laredo ISD*

An examination of how English Language Learner (ELL) status influences these scores unveils intriguing insights. In Laredo ISD, a substantial part of the student population in the 3rd, 4th, and 8th grades consists of ELLs integrated within the reading assessments for their grade level. ELLs are not excluded from the STAAR assessment that informs the TAPR dataset and must take the exam in English just like any other student enrolled in public school in the State of Texas. Remarkably, nearly three-quarters of these grade levels consist of ELLs. The reading proficiency of ELLs is still relatively consistent across grade levels, showing a notable decline only at the 10th grade level, where a mere one percent of ELL students shows reading proficiency. We could speculate on several reasons why this decline could happen.

First, the decreasing trend in the ELL population at the high school level may suggest their transition out of their ESL program as they exit the ESL program because of competency in English. Second, ELLs may also choose to drop out of school as they reach the age of emancipation, between 16 to 17 years of age, when school attendance is no longer legally mandatory. Third, the number would most likely reflect a surge in a newly arrived ELL immigrant population who could be more concentrated in the lower grade levels within Laredo ISD and still not transitioned into the latter grades as they progress through school (see Table 4).

Also of note, nearly all of the Hispanic students in Laredo ISD are identified as economically disadvantaged at 98

percent of the student population. These findings shed light on the complex interplay between linguistic ability, grade progression, and measures of reading proficiency among Hispanic students of Mexican descent in Laredo ISD. Hispanics of Mexican descent enrolled in Laredo ISD are more likely to meet with the disadvantages of low SES and a larger ELL population in need of specialized instructional services. Sadly, only one-out-of-a-hundred ELL students at Laredo ISD can be considered proficient in reading.

Table 4. TAPR 2022-23 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 |

**United ISD in Focus**

Upon examining the data from United ISD, a notable trend appears reading and proficiency stays relatively stable in 3rd and 4th grades, with a slight increase seen in 8th grade. However, there is a noticeable decline in proficiency scores by 10th grade. There are a couple of anomalies that mitigate the steady progression of a Matthew effect. Literacy scores for 3rd grade begin slightly higher than Laredo ISD at 26 percent but are still low with only one-in-four students being proficient for 3rd grade. Interestingly, the 4th grade slump is disconfirmed in United ISD as literacy scores increase slightly to 27 percent at 4th grade. Again, the slump is disconfirmed as literacy scores improve to 36 percent by 8th grade with one-in-three 8th graders being able to read proficiently for their grade level. The progression in literacy scores reveals itself to be the best for composite scores in Laredo. In terms of early literacy development, students at United ISD show some promise for ongoing improvement.

Unfortunately, literacy scores then plummet to 9 percent by the time students reach United HS where only about one-in-ten students can read proficiently at the 10th grade level. There could be several explanations for these score differences in comparison to Laredo ISD, and it is important to note that the scores for United ISD represent a composite across multiple student groups which include Hispanic as the dominant category at 98.4 percent of the student population, but also included some White (1 percent), Black (.02 percent), and Asian (3 percent) students; albeit at low numbers. Consequently, to arrive at a correct tabulation is challenging because it would require disaggregating the performance of Hispanic students in these reading outcomes. These scores can be mitigated when combined with Asian student groups that we know to be high performing. A more isolated sample is needed to confirm Hispanic student performance (see Table 5).

Results revealed how SES might also influence reading performance even at a nominal scale. The number of students eligible for free-and-reduced meals at school is calculated to figure out the percentage of low SES students. Of the two largest school districts in the Laredo region, United ISD could be considered as being

moderately affluent with only 59% of the student population identified as low SES. In contrast, 98% of the students in Laredo ISD, practically the entire student population, is identified as low SES.

Table 5. TAPR 2022-23 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 were conclusive for a 4th grade slump and Matthew effect for Laredo ISD, and results were inconclusive for United ISD having a similar pattern. However, United ISD still ended with a similar result as Laredo ISD for disparaging literacy development by the time students graduate high school. More research is needed to understand why literacy scores fluctuated and seemed to be moving in the right direction but then plummeted down to about one-of-eleven students being proficient in reading. United HS did not do much better than Martin HS in Laredo ISD which reported that one-in-sixteen students were proficient in reading by 10th grade.

## Discussion

For Laredo ISD, the data confirmed what was postulated about a 4th grade slump and corresponding Matthew effect and how these two variables affected a significant demographic sample of Hispanics of Mexican descent. While the low literacy performance of Hispanics at the national level was sufficient cause for initial concern, the subsequent focus on the two largest school districts in Laredo with a combined student population of well over 60 thousand students should be cause for alarm. It is unacceptable to have Hispanic students of Mexican descent progressively decline in their reading proficiency and go from about one-in-four, or one-in-five to a staggering *one-in-sixteen* being able to read proficiently at their grade level by the time they reach the 10th grade in high school. Students should be improving in their literacy abilities, not getting progressively worse.

Initially, United ISD showed some promise as evidenced through subsequent grade level improvement that detracted from the 4th grade slump and Matthew effect. United ISD still had a similar outcome as Laredo ISD with only three percent deviation for reading proficiency by 10th grade in high school. For both these districts the result of low literacy outcomes ended as practically the same although United ISD appeared to perform slightly better at the earlier grades. We can examine some of the reasons for these performance differences.

### ELL Challenges

By far the lowest literacy development was reflected in Laredo ISD among the ELL population who mostly consists of Hispanics of Mexican descent. The lack of support for native-language instruction as a key transitional

curriculum for learning academic English has been unproductive as evidenced by the low literacy scores. US schools tend to embrace an English-language ethos that goes against the logic of established research that supports nurturing a child's native language to help them succeed in learning a second language (Macedo, 2014; Thomas & Collier, 2017). Although schools are required to adopt bilingual programs in the elementary setting, these programs are not implemented with fidelity. In elementary schools, there can exist some variation between adopted bilingual education programs. School personnel must be qualified to teach in bilingual education. Most schools adopt bilingual programs that are transitional toward English versus dual-language programs that reflect more of a language maintenance model. In high school where ELLs are more likely to encounter English as a Second Language (ESL) curriculum, the instructional focus emphasizes a transition to English, not native language maintenance.

In Texas, standardized testing is conducted exclusively in English, and ELLs receive moderate accommodations such as extended testing time and access to bilingual dictionaries. The STAAR, which serves as the basis for gauging literacy status in Texas public schools, is not translated into students' native languages. The accommodations offered to ELLs are helpful but fail to address the primacy of English as the dominant language of instruction. Could reading proficiency be measured in a language other than English? If so, how would our understanding of literacy change? There needs to be other measures of how literacy can be interpreted in addition to the dominant language of instruction.

According to Jim Cummins (2008), it generally takes children about one to two years to become proficient in Basic Interpersonal Communication Skills (BICS), which refers to everyday conversational language skills. In contrast, it takes approximately five to seven years to develop Cognitive Academic Language Proficiency (CALP), which refers to the language necessary for academic success and involves understanding and using language in a more complex and abstract way. Adolescent immigrants who recently arrived to the US in need of second-language instruction may never be able to catch up with the English proficiency required to meet the academic demands for classroom success. The lack of supportive second-language instruction that is sensitive to the transitional and linguistic needs of a significant student demographic in this region only serves to aggravate the trajectory of literacy development for ELLs. Recent research has confirmed how structured literacy instruction offered through the newly adopted STR curriculum can benefit ELLs in their early language learning (Goldenberg, 2020; Goldenberg & Goldenberg, 2022; Slavin et al., 2011). However, if ELL immigrants arrive when they are older adolescents, then the optimal time for succeeding at academic literacy at their grade level may become a lost opportunity.

**Cultural Differences**

One of the glaring contrasts in the data shows how students within the Asian category consistently reflected an excellent academic standing. Asian students may share similar challenges as Hispanic students when confronting second-language learning challenges. We need to further examine cultural factors that can explain how some student groups do better than others in their academic trajectory. Ogbu (1992, 1987) has described minority student performance in school as either being motivated through an appreciation for intellectual growth or being

emblematic of a stigmatized and superficial learning process.

Ogbu differentiates between aspiring minorities who are more recent immigrants and those minorities, such as Black/African American, Hispanic/Mexican American, and Native American—those involuntary minorities who had no choice about their subordinated status in US society due to a history of enslavement and conquest. Students of Mexican descent from the Laredo region do share a subordinated cultural history and are descendants from a previous era when racism and discrimination against Mexicans and Mexican Americans was considered a normal societal practice (González, 2018). Ogbu postulates how Hispanics of Mexican descent may have internalized a historical stigma that negates fully engaging the educational opportunities offered at school. One of the critiques of Ogbu's theory has been how it assigns blame to the subordinate cultural group for its own shortcomings. While it is true that individual students should have a sense of responsibility and even accept accountability for their own learning, we also know that there exist institutional and societal factors that have fallen short of providing appropriate educational services. We are no longer living in the pre-Civil Rights era when political disenfranchisement of persons of Mexican descent can be considered an acceptable social norm. We can do better.

**Gender Concerns**

McCarthy (1988, 2014) observed how educational outcomes observed through SES are also disrupted by gender. Educators need to keep in mind how gender differences have the capacity to fracture assumptions we might have about any cultural group. 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 much needed native-language instruction as growing numbers of ELLs are pressed to learn English in ESL programs at the secondary level. More emphasis needs to be placed on the unique trajectory and pitfalls of literacy development for Hispanic male ELLs especially at the secondary setting.

Although more akin to being outliers in education reform, there have been examples of high schools succeeding with disadvantaged Hispanic populations (Lucas, Henze, & Donato, 1990), and a consistent driver that spurred school success was a commitment by all concerned for understanding the educational challenges being faced within that community and agreeing to work together to address those educational shortcomings. More research is needed on how gender differences within this geographic region can help define effective literacy interventions. Young male students need to see role models that would allow them to see themselves as potential successful readers instead of being alienated from the literacy learning process through constant reminders of their shortcomings in reading.

**Digital Dilemma**

During the previous COVID quarantine period, there was a significant shift towards digital instruction, a trend that continues to grow in public schools with the increasing digitalization of routine classroom activities. A recent

study among Finnish student teachers highlights the positive impact of this trend, suggesting it could help alleviate disparities and improve access to literacy resources across diverse student populations (Maunula & Lähdesmäki, 2022). For instance, geographically isolated student populations can now access literacy resources in their native languages. In a study on digital access, Gyabak and Godina (2011) describe how children in the rural Himalaya region of Bhutan gained access to extensive native language digital libraries that had not been previously available. The digitalization of literacy resources holds the potential to address low SES and geographic disparities by enhancing access for rural populations. However, the amplification of digital access is a double-edged sword when it comes to literacy instruction, and posits the question: Do children learn better through traditional paper and pencil methods or through digital technology? Certainly, digital technology does improve access to educational materials allowing for the convenience of learning from home, but we also are beginning to examine how learning from digital screens is different from learning from print (Coiro, 2021; Furenes, Kucirkova, & Bus, 2021). By examining the status of literacy development in the Laredo region we can begin to analyze the influence of digital challenges. However, the long-term effects of the emphasis on digital technology, especially as a substitute for traditional literacy instruction, remains 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 and fosters a connection with tangible books over excessive screen time.

## Conclusion

The findings of this study reaffirm a long-standing understanding among educators: children from low SES backgrounds face greater educational challenges that include literacy (Aronowitz, 2023). The two most pressing challenges include both low SES and ELL status. The present research largely confirms the existence of a 4th-grade slump and the Matthew effect for students of Mexican descent attending schools in low SES settings. While this deficit is often linked to factors associated with ELLs, it is essential to recognize variations in ELL enrollment across different student demographics. SES factors may influence and increase ELL enrollment rates, as evidenced by the significant disparity between Laredo ISD and United ISD, where 55% of students in Laredo ISD are identified as ELLs compared to only 14% in United ISD. We must remember that low SES is cyclical and low literacy rates similarly diminish opportunities for upward social mobility. It's a nefarious cycle. We have to remain hopeful that by supporting children through structured research-based literacy instruction, we stand to change their SES status.

### Recommendations

It is highly recommended that TAPR and STAAR data be disaggregated when possible so that researchers can better examine intergroup performance according to racial and ethnic groups. We need to also examine how literacy performance is differentiated by gender, SES status, ELLs, and recent immigrant arrivals. Each of these subcategories elicit interventions that can strategically address those unique challenges. By presenting aggregate scores, the true nature of Hispanic literacy development is being camouflaged. If an accurate rendering of literacy development is not clearly articulated, then a solution is further removed from consideration.

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. Teacher candidates entering the field of education in the Rio Grande Valley are confronted with the reality of low literacy development among Hispanic children of Mexican descent. Ignoring the present-day literacy crisis only compounds the challenges newly inducted teachers face in the classroom. The findings from this study should serve as a reference point for ongoing analyses of literacy development as we transition into an era driven by the STR as a State of Texas educational policy. Recent policy shifts offer 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 Hispanic 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.

As school counselors and teachers convey expectations for university admission—the stark reality is that many of these students are not adequately prepared as their literacy abilities can't possibly match the academic expectations for higher education. Educators, administrators, and policy makers need to become aware of the students moving along grade levels with diminishing reading abilities that foreshadow negative outcomes for social mobility. Early literacy instruction remains an essential cornerstone for children's educational success and serves as a gateway for understanding increasingly complex concepts. Maryanne Wolf (2018) emphasizes the importance of deep reading skills for future professional success and observes how reading proficiency will delineate professional status for future generations. Future generations will be defined through their ability to engage in complex reading. Children who achieve higher levels of reading comprehension are more likely to leverage those deep-reading skills to their advantage.

## Acknowledgements

An earlier version of this research was presented at the 2024 International Conference on Humanities, Social, and Education Sciences in San Francisco, CA. I would like to thank the audience members and conference organizers for their thoughtful and supportive feedback for revision.

## References

Aronowitz, S. (2023). Against schooling: Education and social class. In A. Darder, K. Hernandez, K. D. Lam, & M. Baltodano (Eds.), *The Critical Pedagogy Reader* (4th ed., pp. 133-149). Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781003286080-10/schooling-education-social-

class-stanley-aronowitz

Buck, D. (2024, April 18). Next, curtail chromebooks. *Flypaper*. Thomas B. Fordham Institute for Advancing Educational Excellence. https://fordhaminstitute.org/national/commentary/next-curtail-chromebooks#

Coiro, J. (2021). Toward a multifaceted heuristic of digital reading to inform assessment, research, practice, and policy. *Reading Research Quarterly*, *56*(1), 9-31. https://doi.org/10.1002/rrq.302

Collier, V. P., & Thomas, W. P. (2017). Validating the power of bilingual schooling: Thirty-two years of large-scale, longitudinal research. *Annual Review of Applied Linguistics, 37*, 203-217. https://doi.org/10.1017/S0267190517000034

CMS (Center for Migration Studies). (2022). *Democratizing Data Initiative: Undocumented Immigrants in the United States, by State, Race, and Year, 2010-2019* [dataset]. Center for Migration Studies. https://www.cmsny.org/data-undocumentedstate-race-2010-to-2019.

Chall, J.S. and Jacobs, V.A. (2003, Spring). Poor Children's Fourth-Grade Slump. *American Educator*. http://www.aft.org/pubsreports/american_educator/spring2003/chall.html.

Cummins, J. (2008). BICS and CALP: Empirical and theoretical status of the distinction. In B. V. Street, & N. H. Hornberger (Eds.), *Encyclopedia of Language and Education* (2nd ed., pp. 71-83). Springer.

DeJulio, S., Massey, D. D., Stahl, N., & King, J. (2024). Terminologically Speaking, the Reading Wars. *Reading Psychology*, 1-27. https://doi.org/10.1080/02702711.2024.2309342

Furenes, M. I., Kucirkova, N., & Bus, A. G. (2021). A comparison of children's reading on paper versus screen: A meta-Analysis. *Review of Educational Research, 91*(4), 483-517. https://doi.org/10.3102/0034654321998074

Godina, H., & Soto-Ramirez, C. (2017). Emergent Gender Roles Within Tween Popular Culture: Perspectives From Mexican American Students in a Fifth-Grade Classroom. *Journal of Latinos and Education*, *16*(2), 98–109. https://doi.org/10.1080/15348431.2016.1205990

Goldenberg, C. (2020). Reading wars, reading science, and English learners. *Reading Research Quarterly*, *55*, S131-S144. https://doi.org/10.1002/rrq.340

Goldberg, M., & Goldenberg, C. (2022). Lessons Learned? Reading Wars, Reading First, and a Way Forward. *The Reading Teacher*, 75, 621–630. https://doi.org/10.1002/trtr.2079

Gyabak, K., & Godina, H. (2011). Digital storytelling in Bhutan: A qualitative examination of new media tools used to bridge the digital divide in a rural community school. *Computers and Education, 57*(4), 2236-2243. https://doi.org/10.1016/j.compedu.2011.06.009

Hall, K. (2013). Effective literacy teaching in the early years of school: A review of evidence. *The SAGE Handbook of Early Childhood Literacy*, 523-540. Sage Publications.

Honig, B., Diamond, L., & Gutlohn, L. (2018). *Teaching Reading Sourcebook*. Consortium on Reading Excellence in Education. https://www.corelearn.com/teaching-reading-sourcebook-third-edition/

*Holy Bible*, New International Version. (1978). Zondervan.

Hulbig, P.R. (2024). Unifying education as problem solving. *International Journal on Social and Education Sciences* (IJonSES), *6*(1), 117-129. https://doi.org/10.46328/ijonses.637

Linn, R. L., Baker, E. L., & Betebenner, D. W. (2002). Accountability systems: Implications of requirements of the no child left behind act of 2001. *Educational Researcher*, *31*(6), 3-16. https://doi.org/10.3102/0013189X031006003

Lucas, T., Henze, R., & Donato, R. (1990). Promoting the success of Latino language-minority students: An exploratory study of six high schools. *Harvard Educational Review*, 60 (3): 315–341. https://doi.org/10.17763/haer.60.3.0160105tt9kgkq51

Macedo, D. (2014). The colonialism of English only. In P. Orelus (Ed.), *Affirming Language Diversity in Schools and Society* (1st ed., pp. 250-271). Routledge. https://doi.org/10.4324/9780203370308

Maunula, M., & Lähdesmäki, S. (2022). Student teachers' perceptions of the connection between literacy, equality and digitalization. *International Journal on Social and Education Sciences (IJonSES), 4*(3), 323-337. https://doi.org/10.46328/ijonses.392

McCarthy, C. (1988). Rethinking liberal and radical perspectives on racial inequality in schooling: Making the case for nonsynchrony. *Harvard Educational Review*, *58*(3), 265-280. https://doi.org/10.17763/haer.58.3.x837383281745343

McCarthy, C. (2014). *The uses of culture: Education and the limits of ethnic affiliation*. Routledge.

Moats, L. (2007). *Whole-language high jinks: How to tell when "Scientifically-Based Reading Instruction" isn't*. Thomas B. Fordham Institute for Advancing Educational Excellence. https://fordhaminstitute.org/national/research/whole-language-high-jinks

Moats, L. (2014). What teachers don't know and why they aren't learning it: Addressing the need for content and pedagogy in teacher education. *Australian Journal of learning difficulties*, *19*(2), 75-91. https://doi.org/10.1080/19404158.2014.941093

National Assessment of Educational Progress (NAEP) for United States and Texas. (2022). 4th grade reading and 8th grade reading. https://nces.ed.gov/nationsreportcard/reading/

Ogbu, J.U. (1987). Variability in minority school performance: A problem in search of an explanation. *Anthropology & Education Quarterly, 18*, 312-334. https://doi.org/10.1525/aeq.1987.18.4.04x0022v

Ogbu, J. U. (1992). Understanding cultural diversity and learning. *Educational Researcher, 21*(8), 5-14. https://doi.org/10.3102/0013189X021008005

Pearson, P. D. (2004). The reading wars. *Educational policy*, *18*(1), 216-252. https://doi.org/10.1177/08959048032600

Pfost, M., Hattie, J., Dörfler, T., & Artelt, C. (2014). Individual differences in reading development: A review of 25 years of empirical research on Matthew effects in reading. *Review of Educational Research, 84*(2), 203-244. https://doi.org/10.3102/0034654313509492

Pressley, M., Wharton-McDonald, R., Mistretta-Hampston, J., & Echevarria, M. (1998). Literacy instruction in 10 fourth-grade classrooms in upstate New York. *Scientific Studies of Reading, 2*(2), 159–194.
https://doi.org/10.1207/s1532799xssr0202_4

Read, K., Gaffney, G., Chen, A., & Imran, A. (2022). The impact of COVID-19 on families' home literacy practices with young children. *Early Childhood Education Journal, 50*(8), 1429-1438.
https://doi.org/10.1007/s10643-021-01270-6

Ruggles, S., Flood, S., Foster, S., Goeken, R., Pacas, J., Schouweiler, M., & Sobek, M. (2021). *IPUMS USA: Version 11.0* [dataset]. IPUMS. https://doi.org/10.18128/D010.V11.0.

Sanacore, J., & Palumbo, A. (2008). Understanding the fourth-grade slump: Our point of view. The *Educational Forum, 73*(1), 67–74. https://doi.org/10.1080/00131720802539648

Saville-Troike, M. (2008). *The ethnography of communication: An introduction*. John Wiley & Sons.

Schwartz, S. (2024, January 25). The 'Science of Reading in 2024: 5 State initiatives to watch. *Eduction Week*. https://www.edweek.org/teaching-learning/the-science-of-reading-in-2024-5-state-initiatives-to-watch/2024/01#:~:text=Over%20the%20past%20decade%2C%2037,to%20evidence%2Dbased%20reading%20instruction.

Shanahan, T. (2020). What constitutes a Science of Reading Instruction?. *Reading Research Quarterly*, 55(S1), S235–S247. https://doi.org/10.1002/rrq.349

Sheehan, K. M. (2017). Validating automated measures of text complexity. *Educational Measurement: Issues and Practice, 36*: 35-43. https://doi.org/10.1111/emip.12155

Sideridis, G. D. (2011). Exploring the presence of Matthew effects in learning disabilities. *Journal of Learning Disabilities, 44*(5), 399-401. https://doi.org/10.1177/0022219411410041

Slavin, R. E., Lake, C., Davis, S., & Madden, N. A. (2011). Effective programs for struggling readers: A best-evidence synthesis. *Educational Research Review*, *6*(1), 1-26. https://doi.org/10.1016/j.edurev.2010.07.002

Smith, M.W., & Wilhelm, J.D. (2002). *"Reading Don't Fix No Chevys": Literacy in the lives of young men*. Heinemann.

Snowling, M. J., Hulme, C., & Nation, K. (Eds.). (2022). The science of reading: A handbook. John Wiley & Sons.

Stanovich, K. E. (2009). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Journal of Education*, *189* (1-2), 23-55. https://doi.org/10.1177/0022057409189001-204

Suhr, K. A., Hernandez, D. A., Grimes, D., & Warschauer, M. (2010). Laptops and 4th grade literacy: Assisting the jump over the fourth-grade slump. *The Journal of Technology, Learning and Assessment, 9*(5). https://ejournals.bc.edu/index.php/jtla/article/view/1610

Terry, N. P., Gatlin-Nash, B., Webb, M. Y., Summy, S. R., & Raines, R. (2023). Revisiting the Fourth-Grade Slump among Black Children: Taking a closer look at oral language and reading. *The Elementary School Journal, 123*(3). https://www.journals.uchicago.edu/doi/abs/10.1086/723371

Texas Administrative Code. (2020). Title 19, Section 235.101. Adopted by Texas Register, Volume 45(41), 7265 (October 9, 2020), eff. October 15, 2020. https://www.sos.state.tx.us/tac/index.shtml

Texas Education Agency (2022-2023). STAAR Performance (TAPR) for Martin High School; Laredo, ISD. https://tea.texas.gov/reports-and-data

Texas Education Agency (2022-2023). STAAR Performance (TAPR) for United High School; United ISD. https://tea.texas.gov/reports-and-data

Texas Education Agency (2024). Texas Assessment: Resource List. https://www.texasassessment.gov/resource-list/en/english-sample-report-card

Treptow, M. A., Burns, M. K., & McComas, J. J. (2007). Reading at the frustration, instructional, and independent levels: The effects on students' reading comprehension and time on task. *School Psychology Review*, *36*(1), 159-166. https://doi.org/10.1080/02796015.2007.12087958

United States Census Bureau (2020). Race & Ethnicity. https://data.census.gov/profile/United_States?g=010XX00US#race-and-ethnicity

United States Department of Education, Institute of Education Sciences, National Center for Education Statistics,

National Assessment of Educational Progress (NAEP), 1998–2022 Reading Assessments. Retrieved from: https://nces.ed.gov/nationsreportcard/subject/publications/stt2022/pdf/2023010TX4

Walberg, H. J., & Tsai, S. L. (1983). Matthew effects in education. *American Educational Research Journal, 20*(3), 359-373. https://doi.org/10.2307/1162605

Wolf, M. (2018). *Reader come home: The reading brain in a digital world.* Harper.

World Health Organization. (2020). *Coronavirus disease (COVID-19) outbreak*. Retrieved from https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Zviedrite, N., Hodis, J. D., Jahan, F., Gao, H., & Uzicanin, A. (2021). COVID-19-associated school closures and related efforts to sustain education and subsidized meal programs, United States, February 18-June 30, 2020. *PloS one, 16*(9), e0248925. https://doi.org/10.1371/journal.pone.0248925

## Author Information

**Heriberto Godina**

https://orcid.org/0000-0002-6089-3723

Texas A&M International University

Department of Educational Program

Texas A&M International University

312C Pellegrino Hall, College of Education

Laredo, TX 78041

United States

Contact e-mail: *heriberto.godina@tamiu.edu*