DIFFERENCES IN THE WRITING PERFORMANCE OF TEXAS ELEMENTARY SCHOOL STUDENTS AS A FUNCTION OF THEIR ECONOMIC STATUS, GENDER, AND LANGUAGE STATUS: A MULTIYEAR STATEWIDE INVESTIGATION

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DIFFERENCES IN THE WRITING PERFORMANCE OF TEXAS ELEMENTARY SCHOOL STUDENTS AS A FUNCTION OF THEIR ECONOMIC STATUS, GENDER, AND LANGUAGE STATUS: A MULTIYEAR STATEWIDE INVESTIGATION

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DEDICATION

I dedicate this dissertation to the students who I serve. You all have helped me realize a passion and purpose in my work each and every day. May you exit our public schools with tremendous purpose and be difference-makers in our world.

This dissertation also belongs to my husband, Seth, and my mom, Linda. You both are the greatest champions in my life. You have sacrificed and supported my dreams as they became your dreams too. Mom, getting the privilege of watching you earn an undergraduate and graduate degree as an adult is such a testament to your resilience. Seth, the fact that our sheer degree of differences is matched by our depth of love, respect, joy, and unity is clear that we are stronger together. These letters are shared with you both.

ABSTRACT

Martin, Alisha, *Differences in the writing performance of Texas elementary school students as a function of their economic status, gender, and language status: A multiyear statewide investigation*, Doctor of Education (Educational Leadership), December 2022, Sam Houston State University, Huntsville, Texas.

Purpose

The overarching purpose of this journal-ready dissertation was to determine the degree to which differences existed in Grade 4 STAAR Writing performance by student economic status, gender, and language status. In the first article, the purpose was to investigate the extent to which student economic status (i.e., Not Poor, Moderately Poor, Extremely Poor) affected their writing performance. In the second article, the purpose was to ascertain the degree to which boys and girls differed in their writing performance. In the third article, the purpose was to determine the extent to which student language status (i.e., Emergent Bilingual, non-Emergent Bilingual) influenced their writing performance. In each of these articles, the degree to which trends were present in student writing performance by their economic status, gender, and language status was addressed over a 3-year time period.

Method

For this quantitative study, a causal-comparative, non-experimental research design was utilized (Johnson & Christensen, 2020). An archival dataset of the Texas Grade 4 State of Texas Academic Assessment of Academic Readiness (STAAR) Writing test was obtained from the Texas Education Agency Public Education Information Management System for the 2016-2017, 2017-2018, and 2018-2019 school years.

Findings

After conducting the analysis of the data, Texas Grade 4 students who were Extremely Poor had statistically significantly lower writing scores than students who were Moderately Poor. Students who were Moderately Poor had statistically significantly lower writing scores than students who were Not Poor. A clear stair-step effect (Carpenter et al., 2006) was present in that the higher the degree of poverty, the lower the writing performance. With respect to gender, boys had statistically significantly lower writing test scores than girls. In all three Writing Reporting Categories and all Performance Standards, girls outperformed boys. Regarding language status, students who were Emergent Bilingual scored statistically significantly lower on the Grade 4 STAAR Writing than students who were non-Emergent Bilingual. In all three Writing Reporting Categories and all Performance Standards, students who were non-Emergent Bilingual outperformed students who were Emergent Bilingual. The effect size for the Writing Reporting Categories were small for all three school years.

KEY WORDS: STAAR writing, grade 4; Approaches grade level performance; Meets grade level performance; Masters grade level performance; Economic status; Gender; Language status

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CHAPTER I

INTRODUCTION

The Every Student Succeeds Act was implemented in 2015 with the intent of holding schools accountable for high levels of academic achievement for all students. Under this federal law, states and their education agencies have the authority to establish a local method for standardized testing in accordance with the guidelines set forth by the federal government. Annually, students in Grade 3 through Grade 8 are required to participate in standardized assessments in the areas of mathematics and reading. Additionally, states are required to report how certain groups (e.g., economic status, race/ethnicity, and special programs) perform on the high-stakes assessment (Fránquiz & Ortiz, 2016).

Interestingly, the Every Student Succeeds Act does not require state education agencies to assess writing, and yet, Texas requires state assessment in the area of writing for students. The State of Texas Assessment of Academic Readiness (STAAR) Writing test is administered to students in Grade 4 and Grade 7. Despite the widespread assessment and monitoring of student groups (e.g., economic status, language status, race/ethnicity), opportunity gaps continue to exist (Reardon, 2013). In this journal-ready dissertation, the degree to which differences might exist in the writing performance of Texas Grade 4 students as a function of their economic status, gender, and language status over multiple school years will be examined.

Review of the Literature on Economic Status and Writing Achievement

According to the National Center for Children in Poverty (2021), 38% of children in the United States live in a family that is considered to be low-income. Low-income families are defined by the National Center for Children in Poverty as families living below 199% of the federal poverty threshold. The 2019 federal poverty threshold was: (a) \$25,926 for a family of four with two children, (b) \$20,578 for a family of three with one child, and (c) \$17,622 for a family of two with one child. Though children under the age of 18 represent 23% of the population, they represent 32% of people living in poverty (Koball et al., 2021). The income gap has increased rapidly in the last 30 years and is associated with academic achievement in school (Olszewski-Kubilius & Corwith, 2018). In fact, family income serves as the best predictor of academic success in school (Garrett-Peters et al., 2016).

Poverty rates differ across regions in the United States. The South represents the region with the highest percentage of children living in low-income families (Koball et al., 2021). In the last 10 years, an increase has occurred of over 300,000 Texas public school students living in a family that is considered poor. Of note is that nearly 60% of Texas public school students were identified as economically disadvantaged by the Texas Education Agency for the 2016-2017, 2017-2018, and 2018-2019 school years (Texas Education Agency, 2021b).

Students from low-income families have historically performed poorer on standardized assessments than students from higher-income families. Reardon (2013) investigated the income-related opportunity gap over the last 50 years. Data were examined from 12 studies regarding family income and academic performance. The income-related opportunity gap began to increase in the 1970s and has continued to increase by roughly 40% across almost three decades. According to Reardon (2013), the income-related opportunity gap has increased and exceeds race-based opportunity gaps.

Of importance to note is that students who are economically disadvantaged demonstrate an increased risk for reading difficulties as a result of delayed development of language skills (Whitehurst & Lonigan, 1998). Aikens and Barbarin (2008) analyzed data from the Early Childhood Longitudinal Study for kindergarten through Grade 5 students in a nationally representative sample. Approximately 20% of the over 20,000 children were living in poverty. The researchers established the association between home literacy context and reading outcomes. Differences pertaining to reading achievement and poverty occurred in kindergarten and proceeded to grow as students progressed through elementary school, with the gap widening the most in Grade 1 (Aikens & Barbarin, 2008).

Researchers (e.g., Hernandez, 2012; Lloyd, 1978) have documented that Grade 3 reading achievement is a predictor of graduation rates. Of note is a research brief by The Annie E. Casey Foundation, containing a longitudinal study about Grade 3 reading, poverty, and graduation rates for approximately 4,000 students (Hernandez, 2012). Third grade is a transitional time when reading instruction shifts from learning the fundamentals of how to read to applying reading skills to acquire new learning. Students who have not mastered basic reading skills by Grade 3 are six times more likely to not graduate from high school than Grade 3 students who have mastered basic reading skills (Hernandez, 2012). Additionally, 22% of children living in low-income families did not graduate from high school compared to 6% of students who have not lived in a low-

income family. These findings may be interpreted to mean that the combination of low reading skills in Grade 3 and living in a low-income family leaves children in "double jeopardy" (Hernandez, 2012, p. 3).

The degree to which reading influences writing is not yet well understood (Collins et al., 2017; Taylor & Clarke, 2021). Historically, the content areas of reading and writing have been taught in isolation. In a research investigation, Collins et al. (2017) hypothesized that integrating reading and writing would improve comprehension. Reading survey data were collected in addition to writing journals for Grade 4 and Grade 5 students. Collins et al. (2017) determined that the use of supported writing instruction increased reading comprehension with an effect size of 0.3.

Beginning Spring 2017, the Grade 4 State of Texas Assessment of Academic Readiness (STAAR) Writing assessment was redesigned to satisfy the requirements of House Bill 743, reducing the number of multiple-choice questions (Texas Education Agency, 2017a). Student performance is evaluated in the STAAR Grade 4 Writing assessment across three Reporting Categories: (a) Composition, (b) Revision, and (c) Editing. The assessment is comprised of 24 multiple-choice questions and one expository composition. Reporting Category 1 includes one expository composition, Reporting Category 2 includes eight multiple-choice questions, and Reporting Category 3 includes 16 multiple-choice questions (Texas Education Agency, 2016).

In a recent Texas study, McGown (2016) conducted an analysis of Grade 3 STAAR Reading assessment scores across three school years (i.e., 2012-2013, 2013-2014, and 2014-2015). In her study, she investigated the relationship between the degree of economic disadvantage (i.e., Not Economically Disadvantaged, Moderately Poor, and Extremely Poor) and reading achievement. Students identified as Moderately Poor (i.e., eligible for the federal reduced lunch program) had statistically significantly lower reading scores than students who were identified as Not Economically Disadvantaged (i.e., ineligible for the federal free and reduced lunch program). Students identified as Extremely Poor (i.e., eligible for federal free lunch program) had the lowest level of academic achievement of all three groups of students in all three school years. Findings were congruent with Reardon (2013) in that the income-based opportunity gap expanded based upon the degree of poverty (McGown, 2016).

Similar results were evident in another Texas study in which the economic status (i.e., Poor, Not Poor) of Grade 3 Asian, Black, and Hispanic boys as related to their STAAR Reading achievement was examined (Hamilton et al., 2021). Concerning the 2015-2016 school year, approximately 55% of Asian boys who were Poor met the Approaches Grade Level standard compared to nearly 95% of Asian boys who were Not Poor and who met this standard. With respect to Black boys, fewer than 50% who were Poor met the Approaches Grade Level standard whereas nearly 78% of Black boys who were Poor met the Approaches Grade Level standard. Regarding Hispanic boys, fewer than 61% who were Poor met the Approaches Grade Level standard, compared to 86% of Hispanic boys who were Not Poor and who did meet this standard. Statistically significant differences were yielded regarding Asian, Black, and Hispanic boy and their reading achievement for the 2016-2017, 2017-2018, and 2018-2019 school years (Hamilton et al., 2021).

In a similar investigation, Harris (2018) examined the relationship between poverty and academic performance on the Grade 4 STAAR Reading assessment. Statistically significant results were present for the three school years examined (i.e., 2012-2013, 2013-2014, and 2014-2015). Consistent with the findings from McGown (2016), students who were Not Poor (i.e., ineligible for the federal free and reduced lunch program) outperformed students who were Moderately Poor (i.e., eligible for the federal reduced lunch program), and students who were Moderately Poor outperformed students who were Extremely Poor (i.e., eligible for federal free lunch program). Both McGown (2016) and Harris (2018) determined the clear presence of a stair step effect in student reading performance. That is, the greater the degree of poverty that was present, the lower the academic performance was of students (Carpenter et al., 2006).

In another recent Texas investigation, Pariseau (2019) analyzed the effect of economic status on the reading performance of Grade 4 boys and girls who were enrolled in special education across four school years. Pariseau (2019) established the presence of statistically significant differences in reading by the economic status of Grade 4 boys receiving special education services. In the 2014-2015 and 2016-2017 school years, moderate effect sizes were present in the difference in overall reading performance by the economic status of Grade 4 boys. In the 2015-2016 school year, a large effect size was documented. With respect to the 2017-2018 school year, a small effect size was present (Cohen, 1988). Additionally, Pariseau (2019) established the presence of statistically significant differences in overall reading performance by the economic status of Grade 4 girls in three of the four school years in his study. In the 2014-2015 and 2016-2017 school years, statistically significant differences, moderate effect sizes, were revealed in overall reading performance. In the 2015-2016 school year, a large effect size was present. With respect to 2017-2018, statistically significant differences were not present in reading (Pariseau, 2019).

In an investigation on middle school students, Wright and Slate (2015) explored the reading performance of students on the Texas Assessment of Knowledge and Skills, the assessment that preceded the STAAR. Data on critical thinking skills as a function of economic status for Grades 6, 7, and 8 students in the 2010-2011 school year were analyzed. Consistent with other researchers (Harris, 2018; McGown, 2016; Pariseau, 2019), students who were economically disadvantaged had statistically significantly lower reading test scores than students who were not economically disadvantaged. A difference of between 4% to 6% existed among all three grades when investigating reading performance by economic status (Wright & Slate, 2015).

With respect to the first article in this journal-ready dissertation, no published articles could be located on poverty and the Texas state-mandated Grade 4 STAAR Writing assessment. The formal assessment of writing is not federally mandated under Every Student Succeeds Act for Grade 4 students. Instead, Texas is one of few states that requires the standardized assessment of writing for elementary students. Despite the interdependency of reading and writing, the only federally required area of assessment is reading (Whitehurt & Lonigan, 1998).

Review of the Literature on Gender and Writing Achievement

Over a century ago, Ayers (1909) voiced concern about gender based opportunity gaps in literacy. Since that time, researchers (e.g., Below et al., 2010; Harris, 2018; McGown, 2016; Wei et al., 2015) have documented the presence of gender differences in reading achievement. Historically, girls perform better on sequential tasks whereas boys perform better on tasks that require simultaneous processing. Deficits in sequential processing may affect early literacy skill development (e.g., phonemic awareness, phonics) which are foundational to reading (Below et al., 2010; Naour, 2001). A combination of biological and cultural factors may underpin discrepancies in the reading academic achievement of boys (Holbrook, 1988).

Girls have an advantage over boys in the development of early literacy skills. In an analysis conducted by Below et al. (2010), girls had statistically significantly higher pre-literacy skills (i.e., letter naming fluency, initial sound fluency, phoneme segment fluency, nonsense word fluency) than boys. These findings were congruent with other researchers (e.g., Bourke & Adams, 2012; Wei et al., 2015) on the presence of an early onset gender-based opportunity gap in reading (Below et al., 2010).

The gender gap in literacy represents a global disparity, not simply an inequality unique to the United States. In an international study, Bourke and Adams (2012) compared early writing skills for boys and girls. Five areas of writing skills were explored (i.e., Early Years Foundation Stage Profile, number of words, number of different words, number of sentences, length of sentence). Girls achieved statistically significantly higher outcomes in all areas of writing skills except for the complexity of the phrases used in sentences. Furthermore, girls produced more words and had a more expansive vocabulary than boys (Bourke & Adams, 2012).

In another international investigation, reading literacy was explored for 15 year old students across 65 countries. The Program for International Student Assessment includes three areas of analysis: (a) reading literacy, (b) mathematics literacy, and (c) science literacy. Every three years, a different area of literacy is emphasized. Reading literacy was addressed in 2000 and 2009. The gender-based opportunity gap in reading increased by 10 percentage points during that time. In 2009, girls performed higher than boys on reading literacy in all participating countries and in the United States (Brozo et al., 2014).

The gender based opportunity gap in literacy is prevalent internationally, nationally, and across state assessments. In 2010, The Center on Educational Policy examined reading achievement trends on high-stakes assessment across the United States. Unsurprisingly, girls at elementary, middle, and high school levels outperformed boys on all state-mandated reading assessments in the United States. The median percentage of girls performing at the proficient level was 79% compared to 72% of boys performing at the proficient level. In six of the states, the gender-based opportunity gap surpassed 10 percentage points (Chudowsky & Chudowsky, 2010).

In a longitudinal study of kindergarten through Grade 8 students, Wei et al. (2015) examined gender differences in reading. Student data from the Early Childhood Longitudinal Study kindergarten Cohort were analyzed. Findings were that a gap existed in the pattern of reading growth and reading achievement for boys compared to girls. Across nine years, girls demonstrated higher levels of reading achievement in addition to steady growth compared to boys (Wei et al., 2015).

Another researcher (McGown, 2016) expanded the body of research on the gender based opportunity gap to include an emphasis on the Grade 3 State of Texas Assessment of Academic Readiness (STAAR) Reading assessment scores across three school years (i.e., 2012-2013, 2013-2014, and 2014-2015). In her study, she established the presence of statistically significant differences for all three school years. In all three school years and across all Grade 3 STAAR Reading measures, girls outperformed boys. Additionally, McGown (2016) explored the percentage of students who met the Level II Final Satisfactory Performance Standard. Once again, results for all three school years were statistically significant. Girls outperformed boys by nearly 5% on the Level II Final Satisfactory Performance Standard.

In another recent Texas investigation, Schleeter (2017) examined the reading achievement of Grade 3 Emergent Bilingual boys and girls on the STAAR Reading assessment. Three years (i.e., 2012-2013, 2013-2014, and 2014-2015) of Grade 3 STAAR Reading data were analyzed to determine whether gender differences were present in the reading performance of Emergent Bilingual students. Findings were commensurate with the results of other researchers (e.g., McGown, 2016; Wei et al., 2015) in that girls outperformed boys in all STAAR Reading measures in all three school years. Additionally, girls achieved greater success in reaching the Phase-in 1 Satisfactory Performance, attaining roughly 7% higher success than boys across all school years. Emergent Bilingual girls continued to outperform Emergent Bilingual boys in the Phasein 2 Satisfactory Performance Standard and the Final Satisfactory Performance Standard (Schleeter, 2017).

Current research on Texas reading achievement also includes an examination of Grade 4 student data. Harris (2018) explored the reading performance of Grade 4 boys and girls on the STAAR Reading exam. Data were analyzed across the 2012-2013, 2013-2014, and 2014-2015 school years. Harris (2018) established that girls demonstrated statistically significantly higher levels of performance than boys on all of the STAAR Reading measures in all three school years.

As students transition to high school, Moore et al. (2012) explored gender differences in the participation rates of Advanced Placement exams. The College Board offers high school students the opportunity to earn college credit upon the successful completion of approximately 20 different Advanced Placement assessments. During 2007 and 2011, English Literature and Composition represented the greatest participation rate of all available Advanced Placement exams. In both years, girls had higher enrollment numbers than boys.

The gender-based opportunity gap expands beyond K-12 schooling to include postsecondary settings. In a Texas statewide analysis, Combs et al. (2009) investigated the degree to which boys and girls were differentially prepared for reading in college. Approximately half of girls demonstrated prepardness for college reading compared to only about one third of boys who were deemed college-ready in reading. Additionally, Combs et al. (2009) analyzed data from the Scholastic Assessment Test and the American College Test for two school years (e.g., 2005-2006 and 2006-2007). Girls had a higher participation rate by 7% than boys who took the two assessments in anticipation of college attendance.

The extent to which reading affects writing is not yet realized (Collins et al., 2017; Taylor & Clarke, 2021). The Texas Education Agency requires students to take the Grade 4 STAAR Reading assessment in addition to the Grade 4 STAAR Writing assessment. Three Reporting Categories are included on the Grade 4 STAAR Writing exam: (a) Composition, (b) Revision, and (c) Editing. The Composition Category requires students to respond to an expository prompt. The Revision Category and Editing Category are comprised of 24 multiple-choice questions, eight revision questions, and 16 multiple-choice questions (Texas Education Agency, 2016).

With respect to the second article in this journal-ready dissertation, no published articles could be located on gender and the Texas high-stakes Grade 4 STAAR Writing exam. The Every Student Succeeds Act requires states to assess reading and mathematics in Grades 3 through 8 (Fránquiz & Ortiz, 2016). However, writing is not included as one of the federally required tests. Nevertheless, the Texas Education Agency chooses to require all Texas Grade 4 students to participate in this additional assessment. Though researchers (Whitehurt & Lonigan, 1998) have established that reading and writing are integrated, federal guidelines preclude the standardized assessment of writing for Grade 4 students.

Review of the Literature for Emergent Bilingual Students and Writing

Emergent Bilingual students, formerly referred to as Limited English Proficient, English Language Learners, or English Learners, represent a considerable percentage of students enrolled in public schools across the United States (National Center for Education Statistics, 2021). Students identified as Emergent Bilingual demonstrate limited proficiency in English and speak a language other than English as their primary language (English Learner Portal, 2021, p. 1). In 2010, approximately 9.2% of students in public schools were Emergent Bilingual. Since then, these numbers have increased by nearly half a million students. In 2018, 10.2% of students in public schools were Emergent Bilingual. Interestingly, Texas has the second highest percentage of Emergent Bilingual students compared to other states, with approximately 8% higher than the national average (National Center for Education Statistics, 2021).

With regard to Texas, 5,431,910 students were enrolled in public schools in the 2018-2019 school year. Of that number, 1,055,172 were identified as Emergent Bilingual.

Similar to national trends, the number of Texas public school students identified as Emergent Bilingual has increased from 16.9% in the 2008-2009 school year to 19.4% in the 2018-2019 school year. Of the students identified as Emergent Bilingual, 88.5% are Hispanic and 5.9% are Asian (Texas Education Agency, 2019).

The federal No Child Left Behind Act of 2001 established parameters for states to monitor the academic achievement of students who demonstrate Limited English Proficiency (Li et al., 2018). States are required to assess English language proficiency while ensuring that Emergent Bilingual students attain rigorous levels of academic performance, similar to their native English-speaking classmates (Flores et al., 2012). The Every Student Succeeds Act, signed by then-President Obama in 2015, removed some guidelines set forth by the No Child Left Behind Act, now requiring states to establish assessment standards that consider multiple data points when examining student growth and achievement (Fránquiz & Ortiz, 2016). Although the intent of federal assessment guidelines was to aid in closing academic achievement gaps for students, researchers (i.e., Flores et al., 2012; Pariseau, 2019; Schleeter, 2017) contend that the gaps still exist.

The opportunity gap between students who are Emergent Bilingual and students who are non-Emergent Bilingual is reflected in national and state reading achievement data. The National Assessment of Educational Progress, frequently referred to as "The Nation's Report Card," represents the reading academic achievement of students across the United States for selected grade levels (i.e., Grades 4, 8, and 12). Student performance is measured by four achievement levels (i.e., below basic, basic, proficient, advanced). Longitudinal data for Grade 8 students from 1998 through 2005 represent consistent opportunity gaps between Emergent Bilingual students and non-Emergent Bilingual students. Of the Grade 8 students who participated in the National Assessment of Educational Progress in 2005, approximately 71% of Emergent Bilingual students scored below basic in reading achievement (Batalova, 2012).

With respect to the population of interest in this investigation, Flores et al. (2012) analyzed the reading achievement trajectories of Emergent Bilingual students in Texas. They examined data from participants who were Grade 1 students in 1995 and graduated on time in 2006. Throughout their entire academic career of standardized assessments in reading, students who were Emergent Bilingual performed lower than students who were non-Emergent Bilingual. The greatest disparity in reading achievement occurred in Grade 3 with a 20% difference between Emergent Bilingual students and non-Emergent Bilingual students (Flores et al., 2012).

In a recent Texas investigation, Schleeter et al. (2020) explored the reading achievement of Grade 3 Emergent Bilingual students on the State of Texas Academic Assessment of Readiness (STAAR) as a function of their economic status. Data were examined across three school years (i.e., 2012-2013, 2013-2013, 2014-2015). With respect to all three school years, Emergent Bilingual students who were Not Poor outperformed Emergent Bilingual students who were Very Poor (i.e., qualified for the free lunch program) by at least 12% on the Final Satisfactory Performance standard. The greatest gap occurred in the 2013-2014 school year where 13.4% of students who were Not Poor performed higher than students who were Very Poor (Schleeter et al., 2020).

Another researcher (Pariseau, 2019) investigated the reading achievement of Grade 4 Emergent Bilingual boys and girls in special education on the STAAR exam. Statistically significant results were yielded in all four school years (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018). When examining the reading performance of Emergent Bilingual boys in special education, their Phase-in 1 Standard, Phase-in 2 Standard, and the Phase-in 3 Standard performance was statistically significantly poorer than the reading performance of non-Emergent Bilingual boys. With respect to Emergent Bilingual girls in special education, the same results were present. Emergent Bilingual girls had statistically significantly lower Phase-in 2 Standard and the Phase-in 3 Standard performance than non-Emergent Bilingual girls.

Researchers (Ardasheva et al., 2012; Villalobos, 2021) have expanded their examination of Emergent Bilingual students to include middle school and high school students. Ardasheva et al. (2012) investigated the academic achievement of middle school students who were formerly identified as Emergent Bilingual, current classified as Emergent Bilingual, and students who were non-Emergent Bilingual. Interestingly, students who were former Emergent Bilingual students outperformed students who were native English speakers and current Emergent Bilingual students on reading achievement. Additionally, former Emergent Bilingual students in higher poverty schools achieved slightly higher levels of reading achievement than former Emergent Bilingual students who were enrolled in a lower poverty school (Ardasheva et al., 2012).

In a recent study, Villalobos (2021) examined the English I End-of-Course Exam Performance Standard of Emergent Bilingual boys and girls. With respect to all three school years (i.e., 2016-2017, 2017-2018, 2018-2019), Emergent Bilingual girls performed higher in the Approaches Grade Level Performance than Emergent Bilingual boys. Though Emergent Bilingual girls outperformed Emergent Bilingual boys, of note is that nearly 70% of Emergent Bilingual students did not achieve the Approaches Grade Level Standard on the English I End-of-Course assessment. Across all three school years of data analyzed, approximately 90% of Emergent Bilingual students did not achieve the Meets Level Performance Standard. Of concern is that less than 1% of Emergent Bilingual students achieved the Masters Level Performance on the English I End-of-Course exam across all three school years (Villalobos, 2021).

Resilla (2017) extended the research literature regarding Emergent Bilingual students to include an examination of reading college readiness by race/ethnicity (i.e., Asian, Black, Hispanic, White) across seven school years. Black Emergent Bilingual students demonstrated less than 6% of reading college readiness in five out of the seven school years of data analyzed. Less than 6% of Hispanic Emergent Bilingual students demonstrated college readiness in reading for four out of the seven years. Interestingly, in five out of the seven years examined, no White Emergent Bilingual students met the criteria for reading college readiness.

The interconnectedness of reading and writing is still being explored by researchers. Li (2012) investigated the literacy development of Emergent Bilingual students through a case study on a student who moved to the United States when she was 9 years old. Through the integration of a strong community of support, the student was able to progress from struggling with literacy to demonstrating strengths in reading and writing. Li (2012) contended that the presence of relationships and authentic social experiences generated language opportunities that then transferred to literacy.

With regard to the third article in this journal-ready dissertation, no published articles could be located on student language status and the Grade 4 STAAR Writing

assessment. The Every Student Succeeds Act sets forth assessment guidelines for states to monitor the reading and mathematics achievement of students in Grades 3 through 8 (Fránquiz & Ortiz, 2016). Although writing is not included as one of the requirements, the Texas Education Agency chooses to require all Texas Grade 4 students to take an additional STAAR exam. The Grade 4 STAAR Writing is comprised of three Reporting Categories: (a) Composition, (b) Revision, and (c) Editing. In addition to multiple-choice questions, students must compose a response to an expository prompt (Texas Education Agency, 2016).

Statement of the Problem

Opportunity gaps are long-standing and well-documented by researchers (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Reardon, 2013). Unfortunately, despite decades of research and an array of intervention attempts, opportunity gaps remain when examining the economic status, gender, and language status of students. The Texas Education Agency is required to disclose the academic achievement of certain student groups (e.g., economic status, race/ethnicity, and language status) on the annual STAAR assessments. These publicly reported data are used to hold school districts accountable for the academic growth and achievement of all students. Nonetheless, gaps continue to exist. Of note to this journal-ready dissertation are several researchers (e.g., Harris, 2018; McGown, 2016; Schleeter, 2017) who have documented the presence of similar gaps within the areas of reading and mathematics. However, a gap exists in the literature surrounding the STAAR Writing exam. Therefore, the writing performance of Grade 4 students will be investigated in the three articles in this journal-ready dissertation to determine the degree to which differences might be present by economic status, gender, and language status.

Purpose of the Study

The overarching purpose of this journal-ready dissertation was to determine the degree to which differences existed in Grade 4 STAAR Writing performance by student economic status, gender, and language status. In the first article, the purpose was to investigate the extent to which student economic status (i.e., Not Poor, Moderately Poor, Extremely Poor) affected their writing performance. In the second article, the purpose was to ascertain the degree to which boys and girls differed in their writing performance. In the third article, the purpose was to determine the extent to which student language status (i.e., Emergent Bilingual, non-Emergent Bilingual) influenced their writing performance. In each of these articles, the degree to which trends were present in student writing performance by their economic status, gender, and language status was addressed over a 3-year time period.

Significance of the Study

Numerous researchers (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Pariseau, 2019; Wright & Slate, 2015) have published articles on the relationship between student economic status, gender, language status, and academic performance. Although the area of reading has been widely addressed, the area of writing has not been examined. At the time of this journal-ready dissertation, no published articles could be located in which researchers had examined the relationship between economic status, gender, language status, and the writing performance of Texas Grade 4 students. Findings from this journal-ready investigation of Texas Grade 4 students by their economic status, gender, and language status can provide additional information to policymakers and practitioners. The lack of research investigations on high-stakes writing assessment limits the ability of policymakers to be informed in their future planning regarding state-mandated assessments. As a result of House Bill 3906, the STAAR assessment is undergoing a redesign, eliminating the separate writing assessment for Grade 4 students. Beginning in the 2022-2023 school year, the STAAR assessment will incorporate writing and reading into a single assessment (Texas Education Agency, 2021d). Practitioners need to understand the implications of changes to the STAAR assessment and how to focus instructional practices within Texas public schools.

Definition of Terms

The key terms for the three research investigations in this journal-ready dissertation are provided for the reader below.

Approaches Grade Level Performance

This grade level standard, Approaches Grade Level, is interpreted to mean that students require focused academic intervention to demonstrate success in the next grade (Texas Education Agency, 2017b).

Black or African American

The Texas Education Agency defines Black as a person having origins in any of the Black racial groups of Africa (Texas Education Agency, 2021a).

Did Not Meet Grade Level Performance

This grade level standard, Did Not Meet Grade Level, is interpreted to mean that students do not demonstrate adequate understanding of the Texas Essential Knowledge and Skills. Students performing in this category require targeted and ongoing intervention at the next grade level (Texas Education Agency, 2017b).

Economic Status

The Free and Reduced Lunch program is often used as an indicator of students living in poverty and students not living in poverty. Students eligible for free lunch must have a family income of 130% or less of the Federal poverty guidelines. Students eligible for reduced lunch must have a family income from 131% to 185% of the poverty guidelines (Burney & Beilke, 2008). For the purpose of this journal-ready dissertation, students who are eligible for the free lunch program will be referred to as Extremely Poor, students who are eligible for the reduced lunch program will be referred to as Moderately Poor, and students who are not eligible for the free lunch program or the reduced lunch program will be referred to as Not Poor.

Emergent Bilingual

Senate Bill 2066 was passed during the 87th Legislative Session in Texas, introducing the term Emergent Bilingual in place of the term Limited English Proficient (Texas Education Agency Update, 2021, p. 5). Previously, the Texas Education Code (§)29.052 defined an English Learner as a "student of limited English proficiency." A student that is an English Learner has a primary language other than English and demonstrates difficulty performing common classwork in English (English Learner Portal, 2021, p. 1). The United States Department of Education will continue to use the term English Learner in federal guidance, however, in the State of Texas, either the term of Emergent Bilingual or the term of English Learner may be used. In the three articles in this journal-ready dissertation, the term, Emergent Bilingual, will be used.

Ethnicity/Race

The Texas Education Agency refers to ethnicity as a person identifying as Hispanic/Latino or not Hispanic/Latino. The Texas Education Agency defines race as a person identifying as American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian/Other Pacific Islander, or White (Texas Education Agency, 2021a).

Hispanic

The Texas Education Agency defines Hispanic as a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race (Texas Education Agency, 2021a).

Masters Grade Level Performance

This grade level standard, Masters Grade Level, is interpreted to mean that students require little or no academic intervention to be successful at the next grade level (Texas Education Agency, 2017b).

Meets Grade Level Performance

This grade level standard, Meets Grade Level, is interpreted to mean that students may require some short-term academic intervention but demonstrate a high prospect of success at the next grade level (Texas Education Agency, 2017b).
Performance Standards

The STAAR test designates four performance categories that reinforce the expectations defined in the Texas Essential Knowledge and Skills. The performance categories are: (1) Masters Grade Level, (2) Meets Grade Level, (3) Approaches Grade Level, or (4) Did Not Meet Grade Level (Texas Education Agency, 2017b).

Public Education Information Management System

The Texas Public Education Information Management System is a centralized database that includes student demographic and academic performance, personnel, financial, and organizational information. All public education data requested and received from the Texas Education Agency is collected by the Public Education Information Management System. In accordance with the Texas Education Code, the Public Education Information Management System contains the necessary data for the legislature and the Texas Education Agency to legally perform their permitted roles in supervising public education (Texas Education Agency, 2021c).

State of Texas Assessment of Academic Readiness (STAAR)

The State of Texas Assessment of Academic Readiness (STAAR) is a summative assessment that measures student mastery of the Texas Essential Knowledge and Skills. The STAAR test was introduced in 2012 and assesses students in Grades 3-8 and high school. Reading and mathematics are assessed in Grades 3-8, science is assessed in Grade 5 and Grade 8, and social studies is assessed in Grade 8. Starting 2021-2022, the Grade 4 and Grade 7 writing assessment was no longer administered. End-of-course assessments are administered for English I, English II, Algebra I, Biology, and United States History (Texas Education Agency, 2021e).

Texas Education Agency

The Texas Education Agency is the organization that supervises public schools in the state of Texas (Texas Education Agency, 2021f). Appointed by the governor, the Commissioner of Education leads the Texas Education Agency (Texas Education Agency, 2021b). The mission of the Texas Education Agency is to "improve outcomes for all public-school students in the state by providing leadership, guidance, and support to school systems" (Texas Education Agency, 2021f, p.1).

White

The Texas Education Agency defines White as a person having origins in any of the original peoples of Europe, the Middle East, or North Africa (Texas Education Agency, 2021a).

Literature Review Search Procedures

For this journal-ready dissertation, the literature review concerning the writing achievement of Texas Grade 4 students and the relationship between economic status, gender, and language status were examined. The EBSCO Host electronic database was used to review peer reviewed articles that were published between 2011-2022. The literature search was limited to articles in English. The following keywords were used in the search for relevant literature: *writing, reading, literacy, economic status, poverty, gender, and language*.

Delimitations

For this journal-ready dissertation, the writing performance of Texas Grade 4 students will be addressed. The first delimitation is that only three school years of STAAR Writing test data (i.e., 2016-2017, 2017-2018, and 2018-2019) will be analyzed.

Therefore, generalizations may only be possible for these three school years. Additionally, a second delimitation is the exclusive focus on Grade 4 writing. The third delimitation is that writing performance will be solely determined by student performance on a state-mandated assessment. The fourth delimitation is that economic status is solely defined by the federal free and reduced lunch program. The final delimitation is that data will be analyzed on only two categories of language status (i.e., Emergent Bilingual, non-Emergent Bilingual).

Limitations

For this journal-ready dissertation, the writing achievement of Texas Grade 4 students was analyzed. A limitation present was that the variables (i.e., academic performance, economic status, gender influence, and language status) were coded through the Public Education Information Management System by local school districts. As such, errors may exist. Such errors, if present, could influence the accuracy and reliability of findings. Moreover, factors other than academic performance, economic status, gender, and language status influence writing achievement. Furthermore, Grade 4 is the first-grade level in which students participate in the state-mandated assessment for writing. Accordingly, their familiarity with standardized tests is limited. Additionally, archival data weree used for this causal-comparative study, therefore, cause-and-effect relationships cannot be made (Johnson & Christensen, 2020). Finally, the last two school years of data could not be used due to the pandemic and its effects on schools and their administration of state-mandated assessments.

Assumptions

For the purpose of this journal-ready dissertation, the assumption was made that the achievement data, economic status, gender, and language data in the Public Education Information Management System were accurately reported to the state by school campus personnel. Also assumed was consistency in which Texas school districts collected and reported student data. Accordingly, any deviations from these assumptions may lead to inaccurate data and conflicting outcomes.

Organization of the Study

In this journal-ready dissertation, three research investigations were conducted. In the first journal-ready dissertation article, the degree to which differences were present in the writing performance of Texas Grade 4 students as a function of their economic status (i.e., Extremely Poor, Moderately Poor, and Not Poor) for the 2016-2017, 2017-2018, and 2018-2019 school years was addressed. In the second journal-ready dissertation article, the extent to which differences existed on the Grade 4 STAAR Writing assessment between girls and boys for the 2016-2017, 2017-2018, and 2018-2019 school years was examined. Finally, for the third journal-ready dissertation article, the degree to which differences were present on the Grade 4 STAAR Writing exam between Emergent Bilingual students and non-Emergent Bilingual students for the 2016-2017, 2017-2018, and 2018-2019 school years wase determined.

This journal-ready dissertation is comprised of five chapters. Chapter I includes the background of the study, statement of the problem, purpose of the study, significance of the study, definition of terms, delimitations, limitations, assumptions, and outline of the journal ready dissertation. In Chapter II, the first journal-ready dissertation investigation involving student economic status and writing achievement is provided. In Chapter III, the second journal-ready research investigation on boys and girls were discussed. In Chapter IV, the third journal-ready research investigation on writing by student language status was presented. Lastly, in Chapter V, a summary of the results interpreted in the three research articles were discussed.

CHAPTER II

DIFFERENCES IN THE WRITING PERFORMANCE OF TEXAS ELEMENTARY SCHOOL STUDENTS BY THEIR ECONOMIC STATUS: A MULTIYEAR STATEWIDE INVESTIGATION

This dissertation follows the style and format of Research in the Schools (RITS).

Abstract

In this investigation, the extent to which writing performance differed as a function of student economic status (i.e., Not Poor, Moderately Poor, Extremely Poor) was examined. Data were obtained from the Texas Education Agency Public Education Information Management System for all Grade 4 students in Texas who took the State of Texas Assessment of Academic Readiness Writing assessment for the 2016-2017, 2017-2018, and 2018-2019 school years. In all three school years examined, statistically significant differences were present in the writing categories and the performance standards. A clear stair-step effect was present (Carpenter et al., 2006). Students who were Not Poor scored higher than students who were Moderately Poor, and students who were Moderately Poor. Suggestions for future research and implications for policy and practice were made.

Keywords: Not poor; Moderately poor; Extremely poor; STAAR writing, grade 4; Approaches grade level performance; Meets grade level performance; Masters grade level performance

DIFFERENCES IN THE WRITING PERFORMANCE OF TEXAS ELEMENTARY SCHOOL STUDENTS BY THEIR ECONOMIC STATUS: A MULTIYEAR STATEWIDE INVESTIGATION

According to the National Center for Children in Poverty (2021), 38% of children in the United States live in a family that is considered to be low-income. Low-income families are defined by the National Center for Children in Poverty as families living below 199% of the federal poverty threshold. The 2019 federal poverty threshold was: (a) \$25,926 for a family of four with two children, (b) \$20,578 for a family of three with one child, and (c) \$17,622 for a family of two with one child. Though children under the age of 18 represent 23% of the population, they represent 32% of people living in poverty (Koball et al., 2021). The income gap has increased rapidly in the last 30 years and is associated with academic achievement in school (Olszewski-Kubilius & Corwith, 2018). In fact, family income serves as the best predictor of academic success in school (Garrett-Peters et al., 2016).

Poverty rates differ across regions in the United States. The South represents the region with the highest percentage of children living in low-income families (Koball et al., 2021). In the last 10 years, an increase has occurred of over 300,000 Texas public school students living in a family that is considered poor. Of note is that nearly 60% of Texas public school students were identified as economically disadvantaged by the Texas Education Agency for the 2016-2017, 2017-2018, and 2018-2019 school years (Texas Education Agency, 2021a).

Students from low-income families have historically performed poorer on standardized assessments than students from higher-income families. Reardon (2013)

investigated the income-related opportunity gap over the last 50 years. Data were examined from 12 studies regarding family income and academic performance. The income-related opportunity gap began to increase in the 1970s and has continued to increase by roughly 40% across almost three decades. According to Reardon (2013), the income-related opportunity gap has increased and exceeds race-based opportunity gaps.

Of importance to note is that students who are economically disadvantaged demonstrate an increased risk for reading difficulties as a result of delayed development of language skills (Whitehurst & Lonigan, 1998). Aikens and Barbarin (2008) analyzed data from the Early Childhood Longitudinal Study for kindergarten through Grade 5 students in a nationally representative sample. Approximately 20% of the over 20,000 children were living in poverty. The researchers established the association between home literacy context and reading outcomes. Differences pertaining to reading achievement and poverty occurred in kindergarten and proceeded to grow as students progressed through elementary school, with the gap widening the most in Grade 1 (Aikens & Barbarin, 2008).

Researchers (e.g., Hernandez, 2012; Lloyd, 1978) have documented that Grade 3 reading achievement is a predictor of graduation rates. Of note is a research brief by The Annie E. Casey Foundation, containing a longitudinal study about Grade 3 reading, poverty, and graduation rates for approximately 4,000 students (Hernandez, 2012). Third grade is a transitional time when reading instruction shifts from learning the fundamentals of how to read to applying reading skills to acquire new learning. Students who have not mastered basic reading skills by Grade 3 are six times more likely to not graduate from high school than Grade 3 students who have mastered basic reading skills who have mastered basic reading skills

(Hernandez, 2012). Additionally, 22% of children living in low-income families did not graduate from high school compared to 6% of students who have not lived in a low-income family. These findings may be interpreted to mean that the combination of low reading skills in Grade 3 and living in a low-income family leaves children in "double jeopardy" (Hernandez, 2012, p. 3).

The degree to which reading influences writing is not yet well understood (Collins et al., 2017; Taylor & Clarke, 2021). Historically, the content areas of reading and writing have been taught in isolation. In a research investigation, Collins et al. (2017) hypothesized that integrating reading and writing would improve comprehension. Reading survey data were collected in addition to writing journals for Grade 4 and Grade 5 students. Collins et al. (2017) determined that the use of supported writing instruction increased reading comprehension with an effect size of 0.3.

Beginning Spring 2017, the Grade 4 State of Texas Assessment of Academic Readiness (STAAR) Writing assessment was redesigned to satisfy the requirements of House Bill 743, reducing the number of multiple-choice questions (Texas Education Agency, 2017a). Student performance is evaluated in the STAAR Grade 4 Writing assessment across three Reporting Categories: (a) Composition, (b) Revision, and (c) Editing. The assessment is comprised of 24 multiple-choice questions and one expository composition. Reporting Category 1 includes one expository composition, Reporting Category 2 includes eight multiple-choice questions, and Reporting Category 3 includes 16 multiple-choice questions (Texas Education Agency, 2016).

In a recent Texas study, McGown (2016) conducted an analysis of Grade 3 STAAR Reading assessment scores across three school years (i.e., 2012-2013, 20132014, and 2014-2015). In her study, she investigated the relationship between the degree of economic disadvantage (i.e., Not Economically Disadvantaged, Moderately Poor, and Extremely Poor) and reading achievement. Students identified as Moderately Poor (i.e., eligible for the federal reduced lunch program) had statistically significantly lower reading scores than students who were identified as Not Economically Disadvantaged (i.e., ineligible for the federal free and reduced lunch program). Students identified as Extremely Poor (i.e., eligible for federal free lunch program) had the lowest level of academic achievement of all three groups of students in all three school years. Findings were congruent with Reardon (2013) in that the income-based opportunity gap expanded based upon the degree of poverty (McGown, 2016).

Similar results were evident in another Texas study in which the economic status (i.e., Poor, Not Poor) of Grade 3 Asian, Black, and Hispanic boys as related to their STAAR Reading achievement was examined (Hamilton et al., 2021). Concerning the 2015-2016 school year, approximately 55% of Asian boys who were Poor met the Approaches Grade Level standard compared to nearly 95% of Asian boys who were Not Poor and who met this standard. With respect to Black boys, fewer than 50% who were Poor met the Approaches Grade Level standard whereas nearly 78% of Black boys who were Poor met the Approaches Grade Level standard. Regarding Hispanic boys, fewer than 61% who were Poor met the Approaches Grade Level standard, compared to 86% of Hispanic boys who were Not Poor and who did meet this standard. Statistically significant differences were yielded regarding Asian, Black, and Hispanic boy and their reading achievement for the 2016-2017, 2017-2018, and 2018-2019 school years (Hamilton et al., 2021).

In a similar investigation, Harris (2018) examined the relationship between poverty and academic performance on the Grade 4 STAAR Reading assessment. Statistically significant results were present for the three school years examined (i.e., 2012-2013, 2013-2014, and 2014-2015). Consistent with the findings from McGown (2016), students who were Not Poor (i.e., ineligible for the federal free and reduced lunch program) outperformed students who were Moderately Poor (i.e., eligible for the federal reduced lunch program), and students who were Moderately Poor outperformed students who were Extremely Poor (i.e., eligible for federal free lunch program). Both McGown (2016) and Harris (2018) determined the clear presence of a stair step effect in student reading performance. That is, the greater the degree of poverty that was present, the lower the academic performance was of students (Carpenter et al., 2006).

In another recent Texas investigation, Pariseau (2019) analyzed the effect of economic status on the reading performance of Grade 4 boys and girls who were enrolled in special education across four school years. Pariseau (2019) established the presence of statistically significant differences in reading by the economic status of Grade 4 boys receiving special education services. In the 2014-2015 and 2016-2017 school years, moderate effect sizes were present in the difference in overall reading performance by the economic status of Grade 4 boys. In the 2015-2016 school year, a large effect size was documented. With respect to the 2017-2018 school year, a small effect size was present (Cohen, 1988). Additionally, Pariseau (2019) established the presence of statistically significant differences in overall reading performance by the economic status of Grade 4 girls in three of the four school years in his study. In the 2014-2015 and 2016-2017 school years, statistically significant differences, moderate effect sizes, were revealed in overall reading performance. In the 2015-2016 school year, a large effect size was present. With respect to 2017-2018, statistically significant differences were not present in reading (Pariseau, 2019).

In an investigation on middle school students, Wright and Slate (2015) explored the reading performance of students on the Texas Assessment of Knowledge and Skills, the assessment that preceded the STAAR test. Data on critical thinking skills as a function of economic status for Grades 6, 7, and 8 students in the 2010-2011 school year were analyzed. Consistent with other researchers (Harris, 2018; McGown, 2016; Pariseau, 2019), students who were economically disadvantaged had statistically significantly lower reading test scores than students who were not economically disadvantaged. A difference of between 4% to 6% existed among all three grade levels when investigating reading performance by economic status (Wright & Slate, 2015).

With respect to this study, no published articles could be located on poverty and the Texas state-mandated Grade 4 Writing STAAR assessment. Formal assessment of writing is not federally mandated under Every Student Succeeds Act for Grade 4 students. Instead, Texas is one of few states that requires the standardized assessment of writing for elementary students. Despite the interdependency of reading and writing, the only federally required area of assessment is reading (Whitehurt & Lonigan, 1998).

Statement of the Problem

Children growing up in low income families lack access to resources (e.g., highquality child care, health care, and food) compared to children who do not grow up in low income families (Hernandez, 2012). Poverty negatively influences academic achievement. Researchers (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Reardon, 2013) have demonstrated that childhood poverty is a substantial barrier to learning. Additionally, opportunity gaps exist between students in poverty and students not in poverty. Burney and Beilke (2008) contended that poverty may be a more important indicator of academic success than race/ethnicity, gender, or language status. Although the relationship between poverty and reading have been previously documented, a limited body of published research investigations are available on the writing performance of students in poverty.

Purpose of the Study

The purpose of this study was to determine the degree to which differences were present on the Grade 4 STAAR Writing exam by student economic status. In this study, the first purpose was to ascertain the effect of student economic status (i.e., Not Poor, Moderately Poor, and Extremely Poor) on writing performance in three areas (i.e., Reporting Category 1: Composition, Reporting Category 2: Revision, and Reporting Category 3: Editing). A second purpose of this study was to determine the effect of student economic status on writing by performance standard (i.e., Approaches Grade Level standard, Meets Grade Level standard, and Masters Grade Level standard). The third purpose of this study was to ascertain the degree to which trends were present across three years of Grade 4 STAAR Writing academic achievement data (i.e., 2016-2017, 2017-2018, and 2018-2019).

Significance of the Study

Researchers (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Pariseau, 2019; Wright & Slate, 2015) have extensively examined the relationship between economic status and reading achievement. Yet, although writing is recognized as a

critical component of literacy, published research investigations on writing are limited (Miller & McCardle, 2011). A need exists for contined research studies in writing. At the time of this study, no published articles could be located on the Grade 4 STAAR Writing exam and the relationship between economic status and academic achievement.

Historically, the Grade 4 STAAR Writing assessment has been administered separately from the Grade 4 STAAR Reading assessment. Beginning in the 2022-2023 school year, the Grade 4 STAAR Reading test and the Grade 4 STAAR Writing test will be integrated into a single assessment. As such, this investigation provides a baseline study on the Grade 4 STAAR Writing assessment (Texas Education Agency, 2021b). Additionally, it expands the body of research surrounding reading academic achievement to include writing academic achievement. By analyzing the writing performance of students who are Not Poor (i.e., do not qualify for the federal free or reduced lunch program), Moderately Poor (i.e., qualify for the federal reduced lunch program), and Extremely Poor (i.e., qualify for the federal free lunch program), the relationship between the income-based opportunity gap and the degree of poverty can be discovered. Findings from this study may have practical applications for Texas elementary school educators regarding the integration of reading and writing during literacy instruction. Additionally, results from this investigation may be utilized to help drive policy decisions pertaining to state-mandated high stakes assessments.

Research Questions

The following overarching research question was addressed in this investigation: What is the difference in the writing performance of Texas elementary school students by their economic status (i.e., Not Poor, Moderately Poor, and Extremely Poor)? Specific subquestions under this overarching research question were: (a) What is the difference in the composition category of Texas Grade 4 students by their economic status?; (b) What is the difference in the revision category of Texas Grade 4 students by their economic status?; (c) What is the difference in the editing category of Texas Grade 4 students by their economic status?; (d) What is the difference in the Approaches Grade Level standard performance by student economic status?; (e) What is the difference in the Meets Grade Level standard performance by student economic status?; (f) What is the difference in the Masters Grade Level standard performance by student economic status?; (g) What trend is present in the Writing Reporting categories by student economic status across three school years?; and (h) What trend is present in grade level standard performance by student economic status across three school years? The first six research questions were repeated for the 2016-2017, 2017-2018, and 2018-2019 school years whereas the last two research questions involved all three school years.

Method

Research Design

A causal-comparative, non-experimental research design was utilized for this quantitative study (Johnson & Christensen, 2020). According to Johnson and Christensen (2020), a causal-comparative research design allows the researcher to examine relationships between independent and dependent variables. An archival dataset of the Texas Grade 4 STAAR Writing test was analyzed to determine the relationship between economic status and student achievement in writing. The independent variable in this research study was the degree of poverty (i.e., Not Poor, Moderately Poor, Extremely Poor) and the dependent variables were the three STAAR Writing Reporting Categories (i.e., Reporting Category 1: Composition, Reporting Category 2: Revision, and Reporting Category 3: Editing) and the writing performance standards (i.e., Approaches Grade Level standard, Meets Grade Level standard, and Masters Grade Level standard).

Participants and Instrumentation

Data for this study were previously obtained from the Texas Education Agency Public Education Information Management System for the 2016-2017, 2017-2018, and 2018-2019 school years. Data from more recent years (i.e., 2019-2020 and 2020-2021) could not be used due to the ongoing impact of the COVID-19 pandemic on Texas highstakes standardized assessments. To obtain the data for the three school years in this article, a Public Information Request was submitted to and fulfilled by the Texas Education Agency. The data that were previously obtained were analyzed to determine the degree to which student economic status was related to their writing performance in each of the three school years.

For the purpose of this article, economic status will refer to three groups (i.e., Not Poor, Moderately Poor, and Extremely Poor) of students. Students who are eligible for free lunch (i.e., family income of 130% or less of the Federal poverty line) will be identified as Extremely Poor. Students who are eligible for reduced lunch (i.e., family income of 131% to 185% of the Federal poverty line) will be identified as Moderately Poor and students who do not qualify for free or reduced lunch will be identified as Not Poor (Burney & Beilke, 2008).

Assessed by the Grade 4 STAAR Writing test are three Reporting Categories. In the STAAR Writing Reporting Category 1, student ability to create an expository composition from a provided prompt is assessed. Student ability to understand revision is measured in the STAAR Writing Reporting Category 2. Assessed in the STAAR Writing Reporting Category 3 is student ability to understand editing (Texas Education Agency, 2016).

In addition to the three STAAR Writing Reporting Categories, writing performance on the STAAR performance standards (i.e., Did Not Meet Grade Level Performance, Approaches Grade Level Performance, Meets Grade Level Performance, and Masters Grade Level Performance) will be examined. Performance in the Did Not Meet Grade Level Performance indicates that students are unlikely to demonstrate success in the next grade level without significant and continuing intervention. Performance in the Approaches Grade Level Performance indicates students require focused academic intervention to demonstrate success in the next grade. Performance in the Meets Grade Level Performance indicates students may require some short-term academic intervention but demonstrate a high prospect of success at the next grade level. Performance in the Masters Grade Level Performance Standard indicates students require little or no academic intervention to be successful at the next grade level (Texas Education Agency, 2017b).

Results

Prior to conducting inferential statistics to determine whether statistically significant differences were present in Grade 4 STAAR Writing performance by student economic status, the procedure's underlying assumptions were checked. Specifically examined were data normality, Box's Test of Quality of Covariance, and the Levene's Test of Quality of Error Variances. Although not all of the assumptions were met, Field (2018) contends that the Multivariate Analysis of Variance (MANOVA) procedure is sufficiently robust to withstand assumption violations. Results of statistical analyses for the 2016-2017, 2017-2018, and 2018-2019 school years will be described by Writing Reporting Category in chronological order.

Overall Results for the Three School Years

Regarding the 2016-2017 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .84$, p < .001, partial $\eta^2 = .08$, in overall writing performance as a function of economic status. The effect size for this statistically significant difference was moderate (Cohen, 1998). Concerning the 2017-2018 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .81$, p <.001, partial $\eta^2 = .10$, in overall writing performance as a function of economic status. Based on Cohen's (1988) criteria, the effect size was moderate. With respect to the 2018-2019 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .82$, p < .001, partial $\eta^2 = .09$, moderate effect size, in overall writing performance as a function of economic status. In all three school years, the effect sizes for the statistically significant differences were moderate.

Writing Reporting Category 1 Results Across all Three School Years

Following the overall results of the MANOVA, univariate follow-up Analysis of Variance (ANOVA) procedures were conducted for each of the three STAAR Writing Reporting Categories. For the 2016-2017 school year, a statistically significant difference in the Writing Reporting Category 1 by student economic status was yielded, F(2,179838) = 6881.21, p < .001, partial $\eta^2 = .07$, moderate effect size. Concerning the 2017-2018 school year, a statistically significant difference was revealed on the STAAR Writing Reporting Category 1 by student economic status, F(2,147526) = 7219.12, p < .001, partial $\eta^2 = .09$, moderate effect size. With respect to the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 1 by student economic status, F(2,147526) = 7219.12, p < .001, partial $\eta^2 = .09$, moderate effect size. With respect to the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 1 by student economic status, F(2,148923) = 8509.91, p < .001, partial $\eta^2 = .10$, moderate effect size. Effects sizes for the statistically significant differences on the STAAR Writing Reporting Category 1 by student economic status were moderate for all three school years.

Following the three follow-up ANOVA procedures, Scheffe' post hoc procedures were conducted to determine which economic status pairings were statistically significantly different. All pairwise comparisons yielded statistically different results with one exception: in the 2017-2018 school year, the Moderately Poor and Extremely Poor groups performed similarly on the Writing Reporting Category 1. Concerning the 2016-2017 school year, students who were Not Poor answered 0.56 more items correctly than did than students who were Moderately Poor and answered 0.78 more items correctly than did students who were Extremely Poor. Students who were Moderately Poor answered 0.22 items more correctly than students who were Extremely Poor. Regarding the 2017-2018 school year, students who were Not Poor answered 0.89 more items correctly than students who were Moderately Poor and answered 0.92 more items correctly than students who were Extremely Poor. With respect to the 2018-2019 school year, students who were Not Poor answered 0.79 more items correctly than students who were Moderately Poor and 0.99 more items correctly than students who were Extremely Poor. Students who were Moderately Poor answered 0.20 more items correctly than students who were Extremely Poor answered 0.20 more items correctly than students who were Students who were Moderately Poor answered 0.20 more items correctly than students who were Extremely Poor.

In all three school years, a stair-step effect (Carpenter et al., 2006) was clearly evident on the STAAR Writing Reporting Category 1. The greater the degree of poverty, the lower the student writing performance was on the Writing Reporting Category 1. In all three school years, students who were Not Poor answered the most items correctly, followed by students who were Moderately Poor. Students who were Extremely Poor answered the fewest number of items correctly in the Writing Reporting Category 1 in all three school years. Table 2.1 contains the descriptive statistics for this analysis.

Insert Table 2.1 about here

Writing Reporting Category 2 Results Across all Three School Years

With respect to the 2016-2017 school year, a statistically significant difference in the Writing Reporting Category 2 by student economic status was yielded, F(2,179838) =14812.39, p < .001, partial $\eta^2 = .14$, large effect size. For the 2017-2018 school year, a statistically significant difference was revealed on the STAAR Writing Reporting Category 2 by student economic status, F(2,147526) = 13382.65, p < .001, partial $\eta^2 =$.15, large effect size. Concerning the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 2 by student economic status, F(2,148923) = 11385.18, p < .001, partial $\eta^2 = .13$, a near-large effect size. Effects sizes for the statistically significant differences on the STAAR Writing Reporting Category 2 by student economic status were large for the 2016-2017 and 2017-2018 school years and near-large for the 2018-2019 school year.

Following the three follow-up ANOVA procedures, Scheffe' post hoc procedures yielded statistically different results for all pairwise comparisons. Concerning the 2016-2017 school year, students who were Not Poor answered 0.94 more items correctly than did than students who were Moderately Poor and answered 1.49 more items correctly than did students who were Extremely Poor. Students who were Moderately Poor answered 0.55 items more correctly than students who were Not Poor answered 1.28 more items correctly than students who were Moderately Poor and answered 1.28 more items correctly than students who were Moderately Poor and answered 1.60 more items correctly than students who were Extremely Poor. Students who were Moderately Poor answered 0.32 items more correctly than students who were Extremely Poor. With respect to the 2018-2019 school year, students who were Not Poor answered 0.92 more items correctly than students who were Moderately Poor and 1.31 more items correctly than students who were Extremely Poor and 1.31 more items correctly than students who were Extremely Poor and 2.39 more items correctly than students who were Extremely Poor.

In all three school years, a stair-step effect (Carpenter et al., 2006) was clearly evident on the STAAR Writing Reporting Category 2. The greater the degree of poverty, the lower student writing performance was on the Writing Reporting Category 2. In all three school years, students who were Not Poor answered the most items correctly, followed by students who were Moderately Poor. Students who were Extremely Poor answered the fewest number of items correctly on the Writing Reporting Category 2 in all three school years. Delineated in Table 2.2 are the descriptive statistics for this analysis.

Insert Table 2.2 about here

Writing Reporting Category 3 Results Across all Three School Years

Regarding the 2016-2017 school year, a statistically significant difference in the Writing Reporting Category 3 by student economic status was yielded, F(2,179838) = 11843.18, p < .001, partial $\eta^2 = .12$, moderate effect size. For the 2017-2018 school year, a statistically significant difference was revealed on the STAAR Writing Reporting Category 3 by student economic status, F(2,147526) = 11835.96, p < .001, partial $\eta^2 =$.14, large effect size. Concerning the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 3 by student economic status, F(2,147526) = 11835.96, p < .001, partial $\eta^2 =$.14, large effect size. Concerning the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 3 by student economic status, F(2,148923) = 12067.18, p < .001, partial $\eta^2 = .14$, large effect size. Effects sizes for the statistically significant differences on the STAAR Writing Reporting Category 3 by student economic status were moderate for the 2016-2017 school year and large for the 2017-2018 and 2018-2019 school years.

Following the three follow-up ANOVA procedures, Scheffe' post hoc procedures revealed that all pairwise comparisons yielded statistically different results. With respect to the 2016-2017 school year, students who were Not Poor answered 1.66 more items correctly than did than students who were Moderately Poor and answered 2.41 more

items correctly than did students who were Extremely Poor. Students who were Moderately Poor answered 0.75 items more correctly than students who were Extremely Poor. Concerning the 2017-2018 school year, students who were Not Poor answered 2.24 more items correctly than students who were Moderately Poor and answered 2.64 more items correctly than students who were Extremely Poor. Students who were Moderately Poor answered 0.40 items more correctly than students who were Extremely Poor. For the 2018-2019 school year, students who were Not Poor answered 1.83 more items correctly than students who were Moderately Poor and 2.52 more items correctly than students who were Extremely Poor and 2.52 more items correctly than more items correctly than students who were Moderately Poor answered 0.69 more items correctly than students who were Extremely Poor.

In all three school years, a stair-step effect (Carpenter et al., 2006) was clearly present on the STAAR Writing Reporting Category 3. The greater the degree of poverty, the lower the student writing performance was on the Writing Reporting Category 3. In all three school years, students who were Not Poor answered the most items correctly, followed by students who were Moderately Poor. Students who were Extremely Poor answered the fewest number of items correctly on the Writing Reporting Category 3 in all three school years. Revealed in Table 2.3 are the descriptive statistics for this analysis.

Insert Table 2.3 about here

Performance Standard Results

Student scores on the three STAAR Performance Standards (i.e., Approaches Grade Level Standard, Meets Grade Level Standard, Masters Grade Level Standard) was examined through the use of Pearson chi-square procedures. This statistical procedure was the most appropriate statistical procedure to use because dichotomous data were present for all three STAAR Performance Standards (i.e., did not meet this standard or met this standard) and categorical data were present for student economic status (i.e., Not Poor, Moderately Poor, Extremely Poor). As such, the chi-square is the preferred statistical procedure when both variables are categorical (Field, 2018). The assumptions for utilizing a chi-square were met because a large sample size was present.

Approaches Grade Level Standard Results Across all Three School Years

With respect to the Approaches Grade Level Standard by economic status, the result for the 2016-2017 school year was statistically significant, $\chi^2(2) = 18802.21$, p < .001. The effect size for this finding, Cramer's V, was moderate, .32 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Approaches Grade Level Performance than students who were Extremely Poor. The Not Poor group had 13.6% more students who met this standard than students who were Moderately Poor and 30.1% more students who met this standard than students who were Extremely Poor. Readers are referred to Table 2.4 for the frequencies and percentages for the 2016-2017 school year.

Insert Table 2.4 about here

Concerning the 2017-2018 school year, a statistically significant difference was present, $\chi^2(2) = 18948.75$, p < .001. The effect size yielded for this finding, Cramer's V, was moderate, .36 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Approaches Grade Level Performance than students who were Extremely Poor. The Not Poor student group had 19.5% more students who met this standard than students who were Moderately Poor and 32.9% more students who met this standard than students who were Extremely Poor. Delineated in Table 2.4 are the frequencies and percentages for the 2017-2018 school year.

Insert Table 2.4 about here

Regarding the 2018-2019 school year, a statistically significant difference was present, $\chi^2(2) = 17778.07$, p < .001, moderate effect size, Cramer's V of .35 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Approaches Grade Level Performance than students who were Extremely Poor. The Not Poor group had 13.9% more students who met this standard than students who were Moderately Poor and 30.2% more students who met this standard than students who were Extremely Poor. Table 2.4 contains the frequencies and percentages for the 2018-2019 school year.

Insert Table 2.4 about here

Meets Grade Level Performance Results Across all Three School Years

Regarding the Meets Grade Level Standard by economic status, the result for the 2016-2017 school year was statistically significant, $\chi^2(2) = 19494.42$, p < .001. The effect size for this finding, Cramer's V, was moderate, .33 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Meets Grade Level Performance than students who were Extremely Poor. The Not Poor group had 20.6% more students who met this standard than students who were Moderately Poor and 32.1% more students who met this standard than students who were Extremely Poor. Table 2.5 contains the frequencies and percentages for the 2016-2017 school year.

Insert Table 2.5 about here

With respect to the 2017-2018 school year, a statistically significant difference was present, $\chi^2(2) = 21844.48$, p < .001. The effect size yielded for this finding, Cramer's V, was moderate, .39 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Meets Grade Level Performance than students who were Extremely Poor. The Not Poor student group had 24.6% more students who met this standard than students who were Moderately Poor and 38.4% more students who met this standard than students who were Extremely Poor. Readers are referred to Table 2.5 for the frequencies and percentages for the 2017-2018 school year.

Insert Table 2.5 about here

Concerning the 2018-2019 school year, a statistically significant difference was present, $\chi^2(2) = 19206.59$, p < .001, moderate effect size, Cramer's V of .36 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Meets Grade Level Performance than students who were Extremely Poor. The Not Poor group had 21.4% more students who met this standard than students who were Moderately Poor and 35.6% more students who met this standard than students who were Extremely Poor. Delineated in Table 2.5 are the frequencies and percentages for the 2018-2019 school year.

Insert Table 2.5 about here

Masters Grade Level Performance Results Across all Three School Years

With respect to the Masters Grade Level Standard by economic status, the result for the 2016-2017 school year was statistically significant, $\chi^2(2) = 11119.00$, p < .001. The effect size for this finding, Cramer's V, was small, .25 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Masters Grade Level Performance than students who were Extremely Poor. The Not Poor group had 12.7% more students who met this standard than students who were Moderately Poor and 17% more students who met this standard than students who were Extremely Poor. Readers are referred to Table 2.6 for the frequencies and percentages for the 2016-2017 school year. Insert Table 2.6 about here

Regarding the 2017-2018 school year, a statistically significant difference was present, $\chi^2(2) = 10237.02$, p < .001. The effect size yielded for this finding, Cramer's V, was small, .26 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Masters Grade Level Performance than students who were Extremely Poor. The Not Poor student group had 15.9% more students who met this standard than students who were Moderately Poor and 18.8% more students who met this standard than students who were Extremely Poor. Table 2.6 contains the frequencies and percentages for the 2017-2018 school year.

Insert Table 2.6 about here

Concerning the 2018-2019 school year, a statistically significant difference was present, $\chi^2(2) = 9041.12$, p < .001, small effect size, Cramer's V of .25 (Cohen, 1988). Statistically significantly higher percentages of students who were Not Poor met the Masters Grade Level Performance than students who were Extremely Poor. The Not Poor group had 11.9% more students who met this standard than students who were Moderately Poor and 17.4% more students who met this standard than students who were Extremely Poor. Delineated in Table 2.6 are the frequencies and percentages for the 2018-2019 school year. Insert Table 2.6 about here

Discussion

Poverty rates differ across the United States, with the region having the highest percentage of children experiencing poverty being the South (Koball et al., 2021). The number of Texas public school students living in a family that is considered poor has increased by over 300,000 students in the last decade. Of the years examined in this investigation, nearly 60% of Texas public school students were identified as economically disadvantaged by the Texas Education Agency (Texas Education Agency, 2021a).

In this investigation, the extent to which differences were present in Grade 4 STAAR Writing performance by student economic status was analyzed for the 2016-2017, 2017-2018, and 2018-2019 school years. Statewide data on the Grade 4 STAAR Writing Reporting Categories were examined for three economic status groups of students: Not Poor, Moderately Poor, and Extremely Poor. Statistically significant results were present in all three school years. Following these statistical analyses, the three Performance Standards (i.e., Approaches Grade Level Performance, Meets Grade Level Performance, Masters Grade Level Performance) by economic status were examined and yielded statistically significant results in all three school years.

The income-based opportunity gap has increased in the last three decades (Olszewski-Kubilius & Corwith, 2018). A clear stair-step effect (Carpenter et al., 2006) was evident in the percentages of students who met the Approaches Grade Level

Performance Standard, Meets Grade Level Performance Standard, and Masters Grade Level Performance Standard in all three school years investigated in this study. Statistically significantly greater percentages of students who were Not Poor met the standard than students who were either Moderately Poor or Extremely Poor. Approximately 20% fewer students who were economically disadvantaged (i.e., Moderately Poor, Extremely Poor) earned the Meets Level Performance Standard compared to students who are Not Poor. Differences in percentages between the Not Poor and the Moderately Poor groups of students not meeting the Meets Grade Level Performance were 20.6%, 24.6%, and 21.4%, respectively for the three school years. Similarly, differences in percentages between the Moderately Poor and the Extremely Poor group of students not meeting the Meets Grade Level were 11.5%, 13.8%, and 14.2%, respectively for the three school years.

Differences in percentages between the Not Poor and the Moderately Poor groups of students not meeting the Approaches Grade Level Performance were 13.6%, 19.5%, and 13.9%, respectively for the three school years. Similarly, differences in percentages between the Moderately Poor and the Extremely Poor group of students not meeting the Approaches Grade Level Performance Level were 16.5%, 13.4%, and 16.3%, respectively for the three school years. Differences in percentages between the Not Poor and the Moderately Poor groups of students not meeting the Masters Grade Level Performance were 12.7%, 15.9%, and 11.9%, respectively for the three school years. Similarly, differences in percentages between the Moderately Poor and the Extremely Poor group of students not meeting the Masters Grade Level were 4.3%, 2.9%, and 5.5% respectively for the three school years In examining the writing performance of Grade 4 students in Texas across the three years of data that were analyzed herein, consistent trends in scores by economic status were identified.

Connections with Existing Literature

Researchers (e.g., Hernandez, 2012; Lloyd, 1978) have long documented inequities in income-based opportunity gaps and student achievement. Reardon (2013) established that income-based opportunity gaps have increased since the 1970s, and that opportunity gaps continue to widen. Students who are in poverty score lower on standardized assessments than students who are not experiencing poverty. Results of this multiyear, statewide investigation are commensurate with the outcomes of other researchers (e.g., Hamilton et al., 2021; Pariseau, 2019) who demonstrated the presence of lower academic performance for students in poverty compared to students not in poverty. Researchers (e.g., Collins et al., 2017; Taylor & Clarke, 2021) contend that the interconnectedness of reading and writing has not yet been widely explored and therefore is not yet fully realized. This investigation on differences in writing performance expanded on the work of previous researchers (e.g., Harris, 2018; McGown, 2016) who investigated differences in reading performance of Texas elementary students.

Implications for Policy and Practice

As indicated in this multiyear statewide investigation, economic status has a negative influence on student writing performance. Several implications for policy are recommended. Additional funds need to be deployed to support student achievement and teacher retention at high poverty schools. The additional per pupil allocation can support targeted intervention and supplemental resources for students. Additionally, teacher incentives for student academic growth in high poverty schools may support teacher

retention. Furthermore, a comprehensive statewide family education approach regarding access to early intervention programs such as full-day pre-kindergarten will support early literacy skills for students who are economically disadvantaged (Kornrich & Furstenberg, 2013).

Reading and writing are oftentimes taught in isolation rather than integrated during instruction (Collins et al., 2017). Accordingly, several implications for practice are recommended. Educators are encouraged to provide authentic learning opportunities that integrate reading and writing. Additionally, educators must extend the authentic writing experience to include writing across all subjects (e.g., science, mathematics). Moreover, school district leaders should provide professional development that supports teachers in developing strategies for teaching writing and providing targeted feedback to students.

Recommendations for Future Research

Several recommendations for further research studies can be made given the results of this multiyear investigation. A first recommendation would be for researchers to examine the relationship between the Grade 4 STAAR Writing exam and other student demographic characteristics (e.g., gender, race/ethnicity). A second recommendation would be for researchers to continue to expand the examination of Grade 4 STAAR Writing performance to also include student language status (i.e., Emergent Bilingual, non-Emergent Bilingual). Additionally, researchers are encouraged explore other grade levels (e.g., Grade 7 STAAR Writing) to allow for the identification of trends through middle and high school writing performance. Data for this study were limited to the State of Texas. The extent to which results of this study can be generalized to other states is unknown. Accordingly, it is recommended that researchers expand the study of student

writing performance on standardized tests to include other states. Researchers are also encouraged to analyze trends across other subject areas (e.g., mathematics, reading) to determine if trends are present across multiple core content subjects.

Conclusion

The purpose of this research investigation was to determine the extent to which differences were present in the writing performance of Texas Grade 4 students as a function of their economic status. A clear stair-step effect (Carpenter et al., 2006) was established in all three school years. In each school year, students who were Not Poor scored higher than students who were Moderately Poor, and students who were Moderately Poor scored higher than students who were Extremely Poor. These results are commensurate with other researchers (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Reardon, 2013) and are concerning, particularly given the nearly 60% of students in Texas public schools who were identified as economically disadvantaged for the school years examined in this investigation (Texas Education Agency, 2021a).

References

- Aikens, N. L., & Barbarin, O. (2008). Socioeconomic differences in reading trajectories: The contribution of family, neighborhood, and school contexts. *Journal of Educational Psychology*, 100(2), 235-251. https://doi.org/10.1037/0022-0663.100.2.235
- Burney, V. H., & Beilke, J. R. (2008). The constraints of poverty on high achievement. Journal for the Education of the Gifted, 31, 171-197.
- Carpenter, D. M., Ramirez, A., & Severn, L. (2006). Gap or gaps: Challenging the singular definition of the achievement gap. *Education and Urban Society*, 39(1), 113-127. https://doi.org/10.1177/0013124506291792
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.
- Collins, J. L., Lee, J., Fox, J. D., & Madigan, T. P. (2017). Bringing together reading and writing: An experimental study of writing intensive reading comprehension in low-performing urban elementary schools. *Reading Research Quarterly*, 52(3), 311-332. https://doi.org/10.1002/rrq.175
- Field, A. (2018). Discovering statistics using IBM SPSS Statistics. Sage.
- Garrett-Peters, P.T., Monkrova, I., Vernon-Feagans, L., Willoughby, M., Pan, Y., & The Family Life Project Key Investigators. (2016). The role of household chaos in understanding relations between early poverty and children's academic achievement. *Early Childhood Research Quarterly*, 37, 16-25. https://www.doi.org/10.1016/j.ecresq.2016.02.004

- Hamilton, H., Lunenburg, F. C., Slate, J. R., & Barnes, W. (2021) Texas Grade 3 underrepresented boys and economic status differences in reading: A statewide, multiyear study. *Journal of Educational Studies and Multidisciplinary Approaches*, 1(1), 1-36.
- Harris, L. (2018). Differences in the reading performance of Texas Grade 4 students as a function of their economic status, gender, and ethnicity/race: A multiyear, statewide investigation (Publication No. 13819687) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Hernandez, D. J. (2012). *Double jeopardy: How third grade reading skills and poverty influence high school graduation*. The Annie E. Casey Foundation. https://assets.aecf.org/m/resourcedoc/AECF-DoubleJeopardy-2012-Full.pdf
- Johnson, R. B., & Christensen, L. (2020). Educational research (7th ed.). Sage.
- Koball, H., Moore, A., & Hernandez, J. (2021). Basic facts about low-income children: Children under 9 years, 2019. National Center for Children in Poverty, Bank Street College of Education. https://www.nccp.org/wpcontent/uploads/2021/03/NCCP_FactSheets_Under-9-Years_FINAL.pdf
- Kornrich, S., & Furstenberg, F. (2013). Investing in children: Changes in parental spending on children, 1972-2007. *Demography*, 50, 1-23. https://doi.org/10.1007/s13524-012-0146-4
- Lloyd, D. N. (1978) Prediction of school failure from third-grade data. *Educational and Psychological Measurement, 38,* 1193-1200.
- McGown, J. A. (2016). Differences in reading performance of Texas elementary school students as a function of economic status, gender, and ethnicity/race: A multiyear
statewide study (Publication No. 10306227) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

Miller, B., & McCardle, P. (2011). Reflections on the need for continued research on writing. *Reading and Writing: An Interdisciplinary Journal*, 24(2), 121-132. http://doi.org/10.1007/s11145-010-9267-6

Olszewski-Kubilius, P., & Corwith, S. (2018). Poverty, academic achievement, and giftedness: A literature review. *Gifted Child Quarterly*, *62*(1), 37-55. http://doi.org/10.1177/0016986217738015

Pariseau, M. M. (2019). Differences in reading as a function of the economic status, ethnicity/race, and English Language Learner status of Texas Grade 4 boys and girls in special education: A multiyear statewide investigation (Publication No. 27805273) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

- Reardon, S. F. (2013). The widening income achievement gap. *Educational Leadership*, 70(8), 10-16.
- Taylor, L., & Clarke, P. (2021). We read, we write: Reconsidering reading-writing relationship in primary school children. *Literacy*, *55*(1), 14-24.
- Texas Education Agency. (2016). STAAR Grade 4 Writing blueprint. https://tea.texas.gov/sites/default/files/Blueprint%20STAAR%20Gr%204%20Wri ting%202016.pdf
- Texas Education Agency. (2017a). STAAR Grade 4 Writing test beginning with the spring 2017 administration.

https://tea.texas.gov/sites/default/files/Grade%204%20Weighting%20Chart.pdf

- Texas Education Agency. (2017b). *State of Texas Assessments of Academic Readiness* (*STAAR*) performance labels and policy definitions. https://tea.texas.gov/sites/default/files/STAAR_Performance_Labels_and_Policy_ Definitions.pdf
- Texas Education Agency. (2021a). Enrollment in Texas public schools 2020-21. https://tea.texas.gov/sites/default/files/enroll-2020-21.pdf
- Texas Education Agency. (2021b). *STAAR redesign*. https://tea.texas.gov/student-assessment/assessment-initiatives/hb-3906/staar-redesign
- Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development*, 69(3), 848-872.

Wright, L. A., & Slate, J. R. (2015). Differences in critical thinking skills for Texas middle school students as a function of economic disadvantage. *Journal of Education Research*, 9(4), 345-356.

Descriptive Statistics for the STAAR Grade 4 Reporting Category 1 Scores by Student

School Year and Economic Status	п	М	SD
2016-2017			
Not Poor	87,760	4.29	1.44
Moderately Poor	1,090	3.72	1.56
Extremely Poor	90,991	3.50	1.38
2017-2018			
Not Poor	72,222	4.57	1.49
Moderately Poor	506	3.68	1.79
Extremely Poor	74,801	3.65	1.44
2018-2019			
Not Poor	75,459	4.36	1.44
Moderately Poor	483	3.57	1.69
Extremely Poor	72,984	3.37	1.48

Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

Descriptive Statistics for the STAAR Grade 4 Reporting Category 2 Scores by Student

School Year and Economic Status	п	М	SD
2016-2017			
Not Poor	87,760	6.15	1.67
Moderately Poor	1,090	5.21	2.11
Extremely Poor	90,991	4.65	1.97
2017-2018			
Not Poor	72,222	5.43	1.80
Moderately Poor	506	4.15	2.19
Extremely Poor	74,801	3.83	1.54
2018-2019			
Not Poor	75,459	4.36	1.44
Moderately Poor	483	4.99	2.13
Extremely Poor	72,984	4.60	1.80

Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

Descriptive Statistics for the STAAR Grade 4 Reporting Category 3 Scores by Student

School Year and Economic Status	n	М	SD
2016-2017			
Not Poor	87,760	11.93	3.11
Moderately Poor	1,090	10.27	3.87
Extremely Poor	90,991	9.52	3.50
2017-2018			
Not Poor	72,222	12.85	2.83
Moderately Poor	506	10.61	4.54
Extremely Poor	74,801	10.22	3.67
2018-2019			
Not Poor	75,459	12.76	2.76
Moderately Poor	483	10.93	4.38
Extremely Poor	72,984	10.24	3.46

Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

Frequencies and Percentages for the STAAR Grade 4 Approaches Grade Level Standard by Student Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

	Did Not Meet Standard		Met Standard	
School Year	n	%	n	%
2016-2017				
Not Poor	13,961	15.9	73,799	84.1
Moderately Poor	322	29.5	768	70.5
Extremely Poor	41,823	46.0	49,168	54.0
2017-2018				
Not Poor	9,462	13.1	62,760	86.9
Moderately Poor	165	32.6	341	67.4
Extremely Poor	34,373	46.0	40,428	54.0
2018-2019				
Not Poor	8,075	10.7	67,384	89.3
Moderately Poor	119	24.6	364	75.4
Extremely Poor	29,842	40.9	43,142	59.1

Frequencies and Percentages for the STAAR Grade 4 Meets Grade Level Standard by Student Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

School Year	Did Not Me	Did Not Meet Standard		Met Standard	
	n	%	п	%	
2016-2017					
Not Poor	39,474	45.0	48,286	55.0	
Moderately Poor	715	65.6	375	34.4	
Extremely Poor	70,187	77.1	20,804	22.9	
2017-2018					
Not Poor	24,304	33.7	47,918	66.3	
Moderately Poor	295	58.3	211	41.7	
Extremely Poor	53,945	72.1	20,856	27.9	
2018-2019					
Not Poor	29,825	39.5	45,634	60.5	
Moderately Poor	294	60.9	189	39.1	
Extremely Poor	54,839	75.1	18,145	24.9	

Frequencies and Percentages for the STAAR Grade 4 Masters Grade Level Standard by Student Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

	Did Not Meet Standard		Met Standard	
School Year	n	%	n	%
2016-2017				
Not Poor	68,484	78.0	19,276	22.0
Moderately Poor	989	90.7	101	9.3
Extremely Poor	86,418	95.0	4,573	5.0
2017-2018				
Not Poor	54,618	75.6	17,604	24.4
Moderately Poor	463	91.5	43	8.5
Extremely Poor	70,585	94.4	4,216	5.6
2018-2019				
Not Poor	58,015	76.9	17,444	23.1
Moderately Poor	429	88.8	54	11.2
Extremely Poor	68,813	94.3	4,171	5.7

Figure 2.1

Grade 4 STAAR Writing Approaches Grade Level Performance Standard by Student

Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years



Figure 2.2

Grade 4 STAAR Writing Meets Grade Level Performance Standard by Student Economic

Status for the 2016-2017, 2017-2018, and 2018-2019 School Years



Figure 2.3

Grade 4 STAAR Writing Masters Grade Level Performance Standard by Student

Economic Status for the 2016-2017, 2017-2018, and 2018-2019 School Years



CHAPTER III

DIFFERENCES IN WRITING PERFORMANCE BETWEEN TEXAS ELEMENTARY SCHOOL BOYS AND GIRLS: A MULTIYEAR STATEWIDE INVESTIGATION

This dissertation follows the style and format of Research in the Schools (RITS).

Abstract

In this investigation, differences in writing performance between Texas Grade 4 boys and girls were examined. Data were obtained from the Texas Education Agency Public Education Information Management System for all Grade 4 boys and girls in Texas who took the State of Texas Assessment of Academic Readiness Writing assessment in the 2016-2017, 2017-2018, and 2018-2019 school years. In all three years analyzed, statistically significant differences were established. Girls outperformed boys in all three Reporting Categories and all three performance standards. Recommendations for research and implications for policy and practice are suggested.

Keywords: Gender, STAAR writing; Grade 4; Approaches grade level performance; Meets grade level performance; Masters grade level performance

DIFFERENCES IN WRITING PERFORMANCE BETWEEN TEXAS ELEMENTARY SCHOOL BOYS AND GIRLS: A MULTIYEAR STATEWIDE INVESTIGATION

Over a century ago, Ayers (1909) voiced concern about gender based opportunity gaps in literacy. Since that time, researchers (e.g., Below et al., 2010; Harris, 2018; McGown, 2016; Wei et al., 2015) have documented the presence of gender differences in reading achievement. Historically, girls perform better on sequential tasks whereas boys perform better on tasks that require simultaneous processing. Deficits in sequential processing may affect early literacy skill development (e.g., phonemic awareness, phonics) which are foundational to reading (Below et al., 2010; Naour, 2001). A combination of biological and cultural factors may underpin discrepancies in the reading academic achievement of boys (Holbrook, 1988).

Girls have an advantage over boys in the development of early literacy skills. In an analysis conducted by Below et al. (2010), girls had statistically significantly higher pre-literacy skills (i.e., letter naming fluency, initial sound fluency, phoneme segment fluency, nonsense word fluency) than boys. These findings were congruent with other researchers (e.g., Bourke & Adams, 2012; Wei et al., 2015) on the presence of an early onset gender-based opportunity gap in reading (Below et al., 2010).

The gender gap in literacy represents a global disparity, not simply an inequality unique to the United States. In an international study, Bourke and Adams (2012) compared early writing skills for boys and girls. Five areas of writing skills were explored (i.e., Early Years Foundation Stage Profile, number of words, number of different words, number of sentences, length of sentence). Girls achieved statistically significantly higher outcomes in all areas of writing skills except for the complexity of the phrases used in sentences. Furthermore, girls produced more words and had a more expansive vocabulary than boys (Bourke & Adams, 2012).

In another international investigation, reading literacy was explored for 15 year old students across 65 countries. The Program for International Student Assessment includes three areas of analysis: (a) reading literacy, (b) mathematics literacy, and (c) science literacy. Every three years, a different area of literacy is emphasized. Reading literacy was addressed in 2000 and 2009. The gender-based opportunity gap in reading increased by 10 percentage points during that time. In 2009, girls performed higher than boys on reading literacy in all participating countries and in the United States (Brozo et al., 2014).

The gender based opportunity gap in literacy is prevalent internationally, nationally, and across state assessments. In 2010, The Center on Educational Policy examined reading achievement trends on high-stakes assessment across the United States. Unsurprisingly, girls at elementary, middle, and high school levels outperformed boys on all state-mandated reading assessments in the United States. The median percentage of girls performing at the proficient level was 79% compared to 72% of boys performing at the proficient level. In six of the states, the gender-based opportunity gap surpassed 10 percentage points (Chudowsky & Chudowsky, 2010).

In a longitudinal study of kindergarten through Grade 8 students, Wei et al. (2015) examined gender differences in reading. Student data from the Early Childhood Longitudinal Study kindergarten Cohort were analyzed. Findings were that a gap existed in the pattern of reading growth and reading achievement for boys compared to girls. Across nine years, girls demonstrated higher levels of reading achievement in addition to steady growth compared to boys (Wei et al., 2015).

Another researcher (McGown, 2016) expanded the body of research on the gender based opportunity gap to include an emphasis on the Grade 3 State of Texas Assessment of Academic Readiness (STAAR) Reading assessment scores across three school years (i.e., 2012-2013, 2013-2014, and 2014-2015). In her study, she established the presence of statistically significant differences for all three school years. In all three school years and across all Grade 3 STAAR Reading measures, girls outperformed boys. Additionally, McGown (2016) explored the percentage of students who met the Level II Final Satisfactory Performance Standard. Once again, results for all three school years were statistically significant. Girls outperformed boys by nearly 5% on the Level II Final Satisfactory Performance Standard.

In another recent Texas investigation, Schleeter (2017) examined the reading achievement of Grade 3 Emergent Bilingual boys and girls on the STAAR Reading assessment. Three years (i.e., 2012-2013, 2013-2014, and 2014-2015) of Grade 3 STAAR Reading data were analyzed to determine whether gender differences were present in the reading performance of Emergent Bilingual students. Findings were commensurate with the results of other researchers (e.g., McGown, 2016; Wei et al., 2015) in that girls outperformed boys in all STAAR Reading measures in all three school years. Additionally, girls achieved greater success in reaching the Phase-in 1 Satisfactory Performance, attaining roughly 7% higher success than boys across all school years. Emergent Bilingual girls continued to outperform Emergent Bilingual boys in the Phasein 2 Satisfactory Performance Standard and the Final Satisfactory Performance Standard (Schleeter, 2017).

Current research on Texas reading achievement also includes an examination of Grade 4 student data. Harris (2018) explored the reading performance of Grade 4 boys and girls on the STAAR Reading exam. Data were analyzed across the 2012-2013, 2013-2014, and 2014-2015 school years. Harris (2018) established that girls demonstrated statistically significantly higher levels of performance than boys on all of the STAAR Reading measures in all three school years.

As students transition to high school, Moore et al. (2012) explored gender differences in the participation rates of Advanced Placement exams. The College Board offers high school students the opportunity to earn college credit upon the successful completion of approximately 20 different Advanced Placement assessments. During 2007 and 2011, English Literature and Composition represented the greatest participation rate of all available Advanced Placement exams. During both years, girls had higher enrollment numbers than boys.

The gender-based opportunity gap expands beyond K-12 schooling to include postsecondary settings. In a Texas statewide analysis, Combs et al. (2009) investigated the degree to which boys and girls were differentially prepared for reading in college. Approximately half of girls demonstrated prepardness for college reading compared to only about one third of boys who were deemed college-ready in reading. Additionally, Combs et al. (2009) analyzed data from the Scholastic Assessment Test and the American College Test for two school years (e.g., 2005-2006 and 2006-2007). Girls had a higher participation rate by 7% than boys who took the two assessments in anticipation of college attendance.

The extent to which reading affects writing is not yet realized (Collins et al., 2017; Taylor & Clarke, 2021). The Texas Education Agency requires students to take the Grade 4 STAAR Reading assessment in addition to the Grade 4 STAAR Writing assessment. Three Reporting Categories are included on the Grade 4 STAAR Writing exam: (a) Composition, (b) Revision, and (c) Editing. The Composition Category requires students to respond to an expository prompt. The Revision Category and Editing Category are comprised of 24 multiple-choice questions, eight revision questions, and 16 multiple-choice questions (Texas Education Agency, 2016).

With respect to this investigation, no published articles could be located on gender and the Texas high-stakes Grade 4 STAAR Writing exam. The Every Student Succeeds Act requires states to assess reading and mathematics in Grades 3 through 8 (Fránquiz & Ortiz, 2016). However, writing is not included as one of the federally required tests. Nevertheless, the Texas Education Agency chooses to require all Texas Grade 4 students to participate in this additional assessment. Though researchers (Whitehurt & Lonigan, 1998) have established that reading and writing are integrated, federal guidelines preclude the standardized assessment of writing for Grade 4 students.

Statement of the Problem

Gender differences in reading are well documented. Girls typically perform higher on reading achievement whereas boys perform higher on mathematics achievement (e.g., Below et al., 2010; Harris, 2018; McGown, 2016; Schleeter, 2017; Wei et al., 2015). The Texas Education Agency is required to report the reading academic achievement of certain student groups (e.g., economic status, race/ethnicity, language status, and grade level). Despite the historically documented gender based opportunity gap (Ayers, 1909; Holbrook, 1988; Naour, 2001), gender is not included as one of the required monitoring groups. However, although not part of the accountability system, student academic achievement by gender is publicly reported by the Texas Education Agency (Chudowsky & Chudowsky, 2010). Given the presence of documented gaps between boys and girls, research studies are needed to determine the degree to which gaps in writing exist between boy and girls.

Purpose of the Study

The purpose of this study was to determine the degree to which boys and girls differed in their academic performance on the Grade 4 STAAR Writing exam. In this study, the first purpose was to determine the effect of gender on writing performance in three areas (i.e., Reporting Category 1: Composition, Reporting Category 2: Revision, and Reporting Category 3: Editing). A second purpose of this study was to determine the effect of gender on writing by performance standard (i.e., Approaches Grade Level standard, Meets Grade Level standard, and Masters Grade Level standard). The third purpose of this study was to ascertain the degree to which trends were present across three years of Grade 4 STAAR Writing academic achievement data (i.e., 2016-2017, 2017-2018, and 2018-2019).

Significance of the Study

Literacy instruction includes an emphasis on reading and writing. While gender differences and their relationship to reading have been widely addressed by researchers (e.g., McGown 2016, Wei et al., 2015), gender differences and their relationship to writing have not been widely addressed by researchers. Writing is viewed as an element of a comprehensive literacy approach, and yet, few studies exist. To better understand student achievement in writing, additional research efforts are required (Miller & McCardle, 2011). At the time of this study, no published articles could be located on the relationship between gender and writing academic achievement on the Grade 4 STAAR Writing assessment.

Historically, the Grade 4 STAAR Writing assessment has been administered separately from the Grade 4 STAAR Reading assessment. Beginning 2022-2023, the Grade 4 STAAR Reading test and the Grade 4 STAAR Writing will be combined into one assessment. As such, results from this investigation will provide a baseline study on the Grade 4 STAAR Writing assessment (Texas Education Agency, 2021). Additionally, it expands the body of research surrounding reading academic achievement to include writing academic achievement. By analyzing the writing performance of boys and girls, the relationship between gender and writing achievement can be discovered. Findings in this study may have practical applications for Texas elementary school educators regarding writing instruction. Additionally, results from this investigation may be helpful to policymakers regarding state-mandated high stakes assessments.

Research Questions

The following overarching research question were addressed in this investigation: What is the difference between Grade 4 Texas boys and girls in their writing performance? Specific subquestions under this overarching research question were: (a) What is the difference between Texas Grade 4 boys and girls in their composition category performance?; (b) What is the difference between Texas Grade 4 boys and girls in their revision category performance?; (c) What is the difference between Texas Grade 4 boys and girls in their editing category performance?; (d) What is the difference between Texas Grade 4 boys and girls in their Approaches Grade Level standard performance?; (e) What is the difference between Texas Grade 4 boys and girls in their Meets Grade Level standard performance?; (f) What is the difference between Texas Grade 4 boys and girls in their Maetes Grade Level standard performance?; (g) What trend is present in their Masters Grade Level standard performance?; (g) What trend is present in the Writing Reporting categories by student gender across three school years?; and (h) What trend is present in grade level standard performance by student gender across three school years? The first six research questions were repeated for the 2016-2017, 2017-2018, and 2018-2019 school years whereas the last two research questions involved all three school years.

Method

Research Design

A causal-comparative, non-experimental research design was deployed in this article (Johnson & Christensen, 2020). Researchers use causal-comparative designs to examine relationships between independent and dependent variables that occurred in the past (Johnson & Christensen, 2020). An archival dataset of the Grade 4 STAAR Writing test was analyzed to determine the relationship between gender and student achievement in writing. The independent variable in this research study was gender and the dependent variables were the three STAAR Writing Reporting Categories (i.e., Reporting Category 1: composition, Reporting Category 2: revision, and Reporting Category 3: editing) and the three writing performance standards (i.e., Approaches Grade Level standard, Meets Grade Level standard, and Masters Grade Level standard) from the 2016-2017, 2017-2018, and 2018-2019 school years.

Participants and Instrumentation

Data for this study were previously obtained from the Texas Education Agency Public Education Information Management System for the 2016-2017, 2017-2018, and 2018-2019 school years. More recent data could not be obtained due to the COVID-19 pandemic and the inability of schools to proctor the STAAR test during the 2019-2020 school year because of school closures. To obtain data for the three school years examined in this study, a Public Information Request was submitted to and fulfilled by the Texas Education Agency. The data that were previously obtained were analyzed to determine the degree to which student gender was related to their writing performance in each of the three school years.

Assessed by the Grade 4 STAAR Writing test are three Reporting Categories. Assessed in the STAAR Writing Reporting Category 1 is student ability to create an expository composition from a provided prompt. Assessed in the STAAR Writing Reporting Category 2 is student ability to understand revision. Assessed in the STAAR Writing Reporting Category 3 is student ability to understand editing (Texas Education Agency, 2016).

In addition to the three STAAR Writing Reporting Categories, writing performance on the STAAR performance standards (i.e., Did Not Meet Grade Level Performance, Approaches Grade Level Performance, Meets Grade Level Performance, and Masters Grade Level Performance) were examined. Performance in the Did Not Meet Grade Level Performance indicates that students are unlikely to demonstrate success in the next grade level without significant and continuing intervention.

Performance in the Approaches Grade Level Performance indicates students require focused academic intervention to demonstrate success in the next grade. Performance in the Meets Grade Level Performance indicates students may require some short-term academic intervention but demonstrate a high prospect of success at the next grade level. Performance in the Masters Grade Level Performance Standard indicates students require little or no academic intervention to be successful at the next grade level (Texas Education Agency, 2017).

Results

Prior to conducting inferential statistical procedures, the underlying assumptions of the Multivariate Analysis of Variance (MANOVA) procedures were checked. Specifically examined were data normality, Box's Test of Quality of Covariance, and the Levene's Test of Quality of Error Variances. Although the majority of these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use in this investigation (Field, 2018). Results of statistical analyses for Grade 4 boys and girls in Texas who took the STAAR Writing assessment will be described first by Writing Reporting Categories and then by performance standards. Results in this study will be discussed in chronological order for the 2016-2017, 2017-2018, and 2018-2019 school years.

Overall Results for the Three School Years

With respect to the 2016-2017 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .96$, p < .001, partial $\eta^2 = .04$, in the number of test items answered correctly as a function of gender. The effect size for this statistically

significant difference was small (Cohen, 1998). Regarding the 2017-2018 school year, a statistically significant difference was present, Wilks' $\Lambda = .97$, p < .001, partial $\eta^2 = .03$, in the number of test items answered correctly as a function of gender. Using Cohen's (1988) criteria, the effect size was small. Concerning the 2018-2019 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .97$, p < .001, partial $\eta^2 = .03$, small effect size, in the number of test items answered correctly as a function of gender. In all three school years, effect sizes were small.

Writing Reporting Category 1 Results Across all Three School Years

Following the overall results of the MANOVA, univariate follow-up Analysis of Variance (ANOVA) procedures were conducted for each of the three STAAR Writing Reporting Categories. For the 2016-2017 school year, a statistically significant difference was yielded between boys and girls in the number of Writing Reporting Category 1 test items answered correctly, F(1,198729) = 5677.92, p < .001, partial $\eta^2 = .03$, small effect size. Concerning the 2017-2018 school year, a statistically significant difference was again revealed between boys and girls in the number of test items answered correctly in their STAAR Writing Reporting Category 1 scores, F(1,164975) = 5426.04, p < .001, partial $\eta^2 = .03$, small effect size. With respect to the 2018-2019 school year, a statistically significant difference was again present on the STAAR Writing Reporting Category 1 between boys and girls, F(1,166107) = 10119.19, p < .001, partial $\eta^2 = .03$, small effect size. Effects sizes were small for all three school years.

Boys answered statistically significantly fewer items correctly on Writing Reporting Category 1 than did girls in all three of the school years examined. The difference in performance for the Writing Reporting Category 1 by school year was that boys answered 0.49, 0.55, and 0.49 fewer items correctly, respectively than did girls.

Revealed in Table 3.1 are the descriptive statistics for this analysis.

Insert Table 3.1 about here

Writing Reporting Category 2 Results Across all Three School Years

Regarding the 2016-2017 school year, a statistically significant difference was yielded in the number of Writing Reporting Category 2 test items answered correctly between boys and girls, F(1,198729) = 1756.65, p < .001, partial $\eta^2 = .01$, small effect size. For the 2017-2018 school year, a statistically significant difference was revealed on the number of test items answered correctly on the STAAR Writing Reporting Category 2 between boys and girls, F(1,164975) = 156.99, p < .001, partial $\eta^2 = .001$, below small effect size. Concerning the 2018-2019 school year, a statistically significant difference was again present on the STAAR Writing Reporting Category 2 between boys and girls, F(1,164975) = 156.99, p < .001, partial $\eta^2 = .001$, below small effect size. Concerning the 2018-2019 school year, a statistically significant difference was again present on the STAAR Writing Reporting Category 2 between boys and girls, F(1,166107) = 2621.31, p < .001, partial $\eta^2 = .01$, small effect size. Effects sizes were small for the 2016-2017 and 2018-2019 school years and below small for the 2017-2018 school year.

Boys answered statistically significantly fewer items correctly on Writing Reporting Category 2 than did girls in all three of the school years examined. The difference in performance for the Writing Reporting Category 2 by school year was that boys answered 0.37, 0.13, and 0.25 fewer items correctly, respectively than girls. Table 3.2 contains the descriptive statistics for this analysis. Insert Table 3.2 about here

Writing Reporting Category 3 Results Across all Three School Years

Concerning the 2016-2017 school year, a statistically significant difference was yielded between boys and girls in the number of Writing Reporting Category 3 test items answered correctly, F(1,198729) = 2393.72, p < .001, partial $\eta^2 = .01$, small effect size. With respect to the 2017-2018 school year, a statistically significant difference was again revealed between boys and girls in the number of test items answered correctly in their STAAR Writing Reporting Category 3 scores, F(1,164975) = 2024.17, p < .001, partial $\eta^2 = .01$, small effect size. Concerning the 2018-2019 school year, a statistically significant difference was again present on the STAAR Writing Reporting Category 3 between boys and girls, F(1,166107) = 15017.64, p < .001, partial $\eta^2 = .01$, small effect size sizes were small for all three school years.

Boys answered statistically significantly fewer items correctly on Writing Reporting Category 3 than did girls in all three of the school years examined. The difference in performance for the Writing Reporting Category 3 by school year was that boys answered 0.77, 0.78, and 0.61 fewer items correctly, respectively than girls. Delineated in Table 3.3 are the descriptive statistics for this analysis.

Insert Table 3.3 about here

Performance Standard Results

Student scores on the three STAAR Performance Standards (i.e., Approaches Grade Level Standard, Meets Grade Level Standard, Masters Grade Level Standard) was examined through the use of Pearson chi-square procedures. This statistical procedure was the most appropriate statistical procedure to use because dichotomous data were present for all three STAAR Performance Standards (i.e., did not meet this standard or met this standard) and categorical data were present for student gender. As such, the chisquare is the preferred statistical procedure when both variables are categorical (Field, 2018). The assumptions for utilizing a chi-square were met because a large sample size was present.

Approaches Grade Level Standard Results Across all Three School Years

Concerning the Approaches Grade Level Standard, a statistically significant difference was present between boys and girls in the 2016-2017 school year, $\chi^2(1) =$ 2577.81, *p* < .001. The effect size for this finding, Cramer's V, was small, .11 (Cohen, 1988). A statistically significantly higher percentage of girls, 10.6%, met the Approaches Grade Level Standard than boys. Readers are referred to Table 3.4 for the frequencies and percentages for the 2016-2017 school year.

Insert Table 3.4 about here

Regarding the 2017-2018 school year, a statistically significant difference was present between boys and girls, $\chi^2(1) = 1509.50$, p < .001. The effect size for this finding, Cramer's V, was small, .10 (Cohen, 1988). A statistically significantly higher percentage

of girls, 8.8%, met the Approaches Grade Level Standard than boys. Delineated in Table 3.4 are the frequencies and percentages for the 2017-2018 school year.

With respect to the 2018-2019 school year, a statistically significantly difference between boys and girls was present, $\chi^2(1) = 1288.77$, p < .001. The effect size for this finding, Cramer's V, was below small, .09 (Cohen, 1988). A statistically significantly higher percentage of girls, 6.6%, met the Approaches Grade Level Standard than boys. The frequencies and percentages for the 2018-2019 school year are revealed in Table 3.4.

Meets Grade Level Standard Results Across all Three School Years

With respect to the Meets Grade Level Standard, a statistically significant difference was present between boys and girls in the 2016-2017 school year, $\chi^2(1) =$ 2024.48, *p* < .001. The effect size for this finding, Cramer's V, was small, .10 (Cohen, 1988). A statistically significantly higher percentage of girls, 9.8%, met the Meets Grade Level Standard than boys. Table 3.5 contains the frequencies and percentages for the 2016-2017 school year.

Insert Table 3.5 about here

Concerning the 2017-2018 school year, a statistically significantly difference between boys and girls was present, $\chi^2(1) = 1176.72$, p < .001. The effect size for this finding, Cramer's V, was below small, .08 (Cohen, 1988). A statistically significantly higher percentage of girls, 8.4%, met the Meets Grade Level Standard than boys. Readers are referred to Table 3.5 for the frequencies and percentages for the 2017-2018 school year. Regarding the 2018-2019 school year, a statistically significantly difference between boys and girls was present, $\chi^2(1) = 1270.13$, p < .001. The effect size for this finding, Cramer's V, was below small, .09 (Cohen, 1988). A statistically significantly higher percentage of girls, 11.6%, met the Meets Grade Level Standard than boys. Frequencies and percentages for the 2018-2019 school year are delineated in Table 3.5.

Masters Grade Level Standard Results Across all Three School Years

Concerning the Masters Grade Level Standard, a statistically significant difference was present between boys and girls in the 2016-2017 school year, $\chi^2(1) =$ 1188.16, *p* < .001. The effect size for this finding, Cramer's V, was below small, .08 (Cohen, 1988). A statistically significantly higher percentage of girls, 5.2%, met the Masters Grade Level Standard than boys. Readers are referred to Table 3.6 for the frequencies and percentages for the 2016-2017 school year.

Insert Table 3.6 about here

Regarding the 2017-2018 school year, a statistically significant difference was present between boys and girls, $\chi^2(1) = 934.75$, p < .001. The effect size for this finding, Cramer's V, was below small, .08 (Cohen, 1988). A statistically significantly higher percentage of girls, 5.3%, met the Masters Grade Level Standard than boys. Delineated in Table 3.6 are the frequencies and percentages for the 2017-2018 school year.

With respect to the 2018-2019 school year, a statistically significantly difference between boys and girls was present, $\chi^2(1) = 1043.66$, p < .001. The effect size for this finding, Cramer's V, was below small, .08 (Cohen, 1988). A statistically significantly higher percentage of girls, 20.8%, met the Masters Grade Level Standard than boys. The frequencies and percentages for the 2018-2019 school year are presented in Table 3.6.

Discussion

Examined in this investigation was the degree to which differences were present between girls and boys in their writing performance on the Grade 4 STAAR Writing exam. Three years of Texas statewide data were analyzed for boys and girls. Inferential statistical analyses revealed the presence of statistically significant differences between boys and girls in their writing performance in all three school years.

Connections with Existing Literature

The gender-based opportunity gap has been documented for over a century (Ayers, 1909). Despite many investigations, the gaps in academic performance between boys and girls still exists. The combination of biological and cultural factors may reinforce discrepancies in the reading academic achievement of boys (Holbrook, 1988). Researchers (Below et al., 2010; Naour, 2001) have documented early literacy deficits which may interfere with the ability of boys to build foundational reading skills.

In a recent Texas investigation, McGown (2016) examined the Grade 3 STAAR Reading test as a function of gender. Statistically significant differences were present for all three school years (i.e., 2012-2013, 2013-2014, and 2014-2015). Unsurprisingly, girls outperformed boys in all three school years. Harris (2018) also explored the reading performance of Grade 4 boys and girls on the STAAR Reading exam. Consistent with other researchers, Harris (2018) established that girls demonstrated statistically significantly higher levels of reading performance than boys in all three school years. In this empirical investigation, girls were more likely to outperform boys in the Writing Reporting Category and the performance standards. The results of this study are commensurate with the outcomes of other researchers (e.g., Harris, 2018; McGown, 2016) who demonstrated the presence of lower literacy academic performance for boys compared to girls.

Implications for Policy and Practice

Several implications for policy are recommended based on the trends identified in this investigation wherein girls performed higher than boys in their writing performance. Additional funds need to be deployed to support student achievement across Texas public schools. The additional per pupil allocation can support the purchase of additional instructional materials to reinforce writing. Additionally, funds can be deployed to hire additional staff (e.g., teachers, literacy instructional specialists). Furthermore, the Texas Education Agency is encouraged to conduct a reflective analysis of all standardized testing in the state and begin discussions about a redesign that gives independent school districts more local authority.

Reading is often taught separate from writing (Collins et al., 2017). Therefore, several implications for practice are recommended. School districts are encouraged to develop curriculum that integrates reading and writing. Additionally, educators are encouraged to facilitate writing opportunities across all content areas (e.g., science, social studies). Furthermore, school district leaders should provide professional development that supports teachers in implementing an integrated approach to teaching writing in addition to key instructional strategies.

Recommendations for Future Research

Based on the results from this multiyear study, several recommendations for further research studies can be made. A first recommendation would be for researchers to investigate the relationship between the Grade 4 STAAR Writing assessment and additional student demographic characteristics (e.g., economic status, race/ethnicity). A second recommendation would be for researchers to continue to expand the study of Grade 4 STAAR Writing performance to also include student language status (i.e., Emergent Bilingual, non-Emergent Bilingual). Additionally, researchers are encouraged to explore the writing performance of middle school and high school students to allow for the discovery of trends in writing performance. Data for this study were limited to the State of Texas. The extent to which results of this study can be generalized to other states is unknown. As such, it is recommended that researchers are also encouraged to analyze trends across other subject areas (e.g., mathematics, reading) to determine if trends are present across multiple core content subjects.

Conclusion

The purpose of this research study was to determine the extent to which differences were present in the writing performance of elementary students as a function of gender. Inferential statistical analyses of three years of Texas statewide data indicated the presence of statistically significant differences in the writing performance of boys and girls. In each school year, girls performed better than boys on the Grade 4 STAAR Writing test. Consistent with previous researchers (e.g., Ayers, 1909; McGown, 2016), girls outperformed boys in the Writing Reporting Categories and the performance standards in all three school years.

References

Ayers, L. (1909). Laggards in our schools. Russell Sage Foundation.

- Below, J. L., Skinner, C. H., Fearrington, J. Y., & Sorrell, C. A. (2010). Gender differences in early literacy: Analysis of Kindergarten through fifth grade dynamic indicators of basic early literacy skills probes. *School Psychology Review*, 39(2), 240-257. https://doi.org/10.1080/02796015.2010.12087776
- Bourke, L., & Adams, A. M. (2012). Is it differences in language skills and working memory that account for girls being better at writing than boys? *Journal of Writing Research*, 3(3), 249-277. https://doi.org/10.17239/jowr-2012.03.03.5
- Brozo, W. G., Sulkunen, S., Shiel, G., Garbe, C., Pandian, A., & Valtin, R. (2014).
 Reading, gender, and engagement: Lessons from five PISA countries. Journal of
 Adolescent and Adult Literacy, 57, 584-593. https://doi.org/10.1002/jaal.291
- Chudowsky, N., & Chudowsky, V. (2010). Are there differences in achievement between boys and girls? Center on Education Policy.

https://files.eric.ed.gov/fulltext/ED509023.pdf

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.
- Collins, J. L., Lee, J., Fox, J. D., & Madigan, T. P. (2017). Bringing together reading and writing: An experimental study of writing intensive reading comprehension in low-performing urban elementary schools. *Reading Research Quarterly*, 52(3), 311-332. https://doi.org/10.1002/rrq.175

- Combs, J. P., Slate, J. R., Moore, G. W., Bustamante, R. M., Onwuegbuzie, A. J., & Edmonson, S. L. (2009). Gender differences in college preparedness: A statewide study. Urban Review, 42(5), 441-457. https://doi.org/10.1007/s11256-009-0138-x
- Field, A. (2018). Discovering statistics using IBM SPSS Statistics. Sage.
- Fránquiz, M. E., & Ortiz, A. A. (2016). Co-editors' introduction: Every Student Succeeds Act-A policy shift. *Bilingual Research Journal*, 39(1), 1-3. https://www.doi.org/10.1080/15235882.2016.1148996
- Harris, L. (2018). Differences in the reading performance of Texas Grade 4 students as a function of their economic status, gender, and ethnicity/race: A multiyear, statewide investigation (Publication No. 13819687) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Holbrook, H. T. (1988). Sex differences in reading: Nature or nurture. *Journal of Reading*, *31*(6), 574-576.
- Johnson, R. B., & Christensen, L. (2020). Educational research (7th ed.). Sage.
- McGown, J. A. (2016). Differences in reading performance of Texas elementary school students as a function of economic status, gender, and ethnicity/race: A multiyear statewide study (Publication No. 10306227) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Miller, B., & McCardle, P. (2011). Reflections on the need for continued research on writing. *Reading and Writing: An Interdisciplinary Journal*, 24(2), 121-132. http://doi.org/10.1007/s11145-010-9267-6

- Moore, G., Combs, J. P., & Slate, J. R. (2012). Advanced Placement exams participation and performance: A national study of gender differences. *E-international Journal of Educational Research*, *3*(3), 18-32.
- Naour, P. (2001). Brain/behavior relationships, gender differences, and the learning disabled. *Theory Into Practice*, 24(85), 100-105. https://doi.org/10.1080/00405848509543155
- Schleeter, G. D. (2017). Differences in the reading achievement of Texas Grade 3
 English Language Learners as a function of their economic status, ethnicity/race, and gender: A multiyear statewide study (Publication No. 10756390) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Taylor, L., & Clarke, P. (2021). We read, we write: Reconsidering reading-writing relationship in primary school children. *Literacy*, 55(1), 14-24.
- Texas Education Agency. (2016). STAAR Grade 4 Writing blueprint. https://tea.texas.gov/sites/default/files/Blueprint%20STAAR%20Gr%204%20Wri ting%202016.pdf
- Texas Education Agency. (2017). State of Texas Assessments of Academic Readiness (STAAR) performance labels and policy definitions. https://tea.texas.gov/sites/default/files/STAAR_Performance_Labels_and_Policy_ Definitions.pdf
- Texas Education Agency. (2021). *STAAR redesign*. https://tea.texas.gov/student-assessment/assessment-initiatives/hb-3906/staar-redesign
- Wei, T. Liu, X., & Barnard-Brak, L. (2015). Gender differences in mathematics and reading trajectories among children from kindergarten to eighth grade. *Research in Education*, 93(5), 77-89. http://doi.org/10.7227/RIE.0015
- Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development*, 69(3), 848-872.

Descriptive Statistics for the STAAR Grade 4 Reporting Category 1 Scores of Boys and

School Year and Gender	n M		SD
2016-2017			
Boys	100,626	3.63	1.43
Girls	98,105	4.12	1.45
2017-2018			
Boys	81,744	3.80	1.52
Girls	83,233 4.35		1.50
2018-2019			
Boys	82,040	82,040 3.59	
Girls	84,069	4.08	1.54

Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years

Descriptive Statistics for the STAAR Grade 4 Reporting Category 2 Scores of Boys and

School Year and Gender	n M		SD
2016-2017			
Boys	100,626	5.15	2.02
Girls	98,105	5.52	1.93
2017-2018			
Boys	81,744	4.49	2.05
Girls	83,233	4.62	2.03
2018-2019			
Boys	82,040	82,040 5.08	
Girls	84,069	5.33	1.78

Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years

Descriptive Statistics for the STAAR Grade 4 Reporting Category 3 Scores of Boys and

School Year and Gender	n	М	SD
2016-2017			
Boys	100,626	10.28	3.64
Girls	98,105	11.05	3.36
2017-2018			
Boys	81,744	11.05	3.70
Girls	83,233	11.83	3.38
2018-2019			
Boys	82,040	11.12	3.53
Girls	84,069	11.73	3.24

Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years

Frequencies and Percentages for the STAAR Grade 4 Approaches Grade Level Standard

	Did Not Meet Standard		Met Standard	
School Year and Gender	n	%	п	%
2016-2017				
Boys	37,293	37.1	63,333	62.9
Girls	25,949	26.5	72,156	73.5
2017-2018				
Boys	28,794	35.2	52,950	64.8
Girls	21,969	26.4	61,264	73.6
2018-2019				
Boys	25,012	56.7	57,028	46.7
Girls	19,090	43.3	64,979	53.3

of Boys and Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years

Frequencies and Percentages for the STAAR Grade 4 Meets Grade Level Standard of

	Did Not Meet Standard		Met Standard	
School Year and Gender	n	%	n	%
2016-2017				
Boys	67,421	67.0	33,205	33.0
Girls	56,127	57.2	41,978	42.8
2017-2018				
Boys	47,915	58.6	33,829	41.4
Girls	41,785	50.2	41,448	49.8
2018-2019				
Boys	51,253	53.1	30,787	44.2
Girls	45,266	46.9	38,803	55.8

Boys and Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years

Frequencies and Percentages for the STAAR Grade 4 Masters Grade Level Standard of

	Did Not Meet Standard		Met Standard	
School Year and Gender	n	%	n	%
2016-2017				
Boys	90,266	89.7	10,360	10.3
Girls	82,927	84.5	15,178	15.5
2017-2018				
Boys	72,308	88.5	9,436	11.5
Girls	69,252	83.2	13,981	16.8
2018-2019				
Boys	72,826	51.0	9,214	39.6
Girls	70,000	49.0	14,069	60.4

Boys and Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years

Figure 3.1

Grade 4 STAAR Writing Approaches Grade Level Performance Standard of Boys and

Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years



Figure 3.2

Grade 4 STAAR Writing Meets Grade Level Performance Standard of Boys and Girls for

the 2016-2017, 2017-2018, and 2018-2019 School Years



Figure 3.3

Grade 4 STAAR Writing Masters Grade Level Performance Standard of Boys and Girls for the 2016-2017, 2017-2018, and 2018-2019 School Years



CHAPTER IV

DIFFERENCES IN THE WRITING PERFORMANCE OF TEXAS ELEMENTARY SCHOOL STUDENTS AS A FUNCTION OF THEIR LANGUAGE STATUS: A MULTIYEAR STATEWIDE INVESTIGATION

This dissertation follows the style and format of *Research in the Schools (RITS)*.

Abstract

In this investigation, the extent to which writing performance differed as a function of student language status (i.e., Emergent Bilingual, non-Emergent Bilingual) was examined. Data were obtained from the Texas Education Agency Public Education Information Management System for all Grade 4 students in Texas who took the State of Texas Assessment of Academic Readiness Writing assessment for the 2016-2017, 2017-2018, and 2018-2019 school years. In all three school years examined, statistically significant differences were present in the writing categories and the performance standards. Students who were non-Emergent Bilingual scored higher on all of the Writing measures than students who were Emergent Bilingual. Suggestions for future research and implications for policy and practice were made.

Keywords: Emergent bilingual; STAAR writing, grade 4; Approaches grade level performance; Meets grade level performance; Masters grade level performance

DIFFERENCES IN THE WRITING PERFORMANCE OF TEXAS ELEMENTARY SCHOOL STUDENTS AS A FUNCTION OF THEIR LANGUAGE STATUS: A MULTIYEAR STATEWIDE INVESTIGATION

Emergent Bilingual students, formerly referred to as Limited English Proficient, English Language Learners, or English Learners, represent a considerable percentage of students enrolled in public schools across the United States (National Center for Education Statistics, 2021). Students identified as Emergent Bilingual demonstrate limited proficiency in English and speak a language other than English as their primary language (English Learner Portal, 2021, p. 1). In 2010, approximately 9.2% of students in public schools were Emergent Bilingual. Since then, these numbers have increased by nearly half a million students. In 2018, 10.2% of students in public schools were Emergent Bilingual. Interestingly, Texas has the second highest percentage of Emergent Bilingual students compared to other states, with approximately 8% higher than the national average (National Center for Education Statistics, 2021).

With regard to Texas, 5,431,910 students were enrolled in public schools in the 2018-2019 school year. Of that number, 1,055,172 were identified as Emergent Bilingual. Similar to national trends, the number of Texas public school students identified as Emergent Bilingual has increased from 16.9% in the 2008-2009 school year to 19.4% in the 2018-2019 school year. Of the students identified as Emergent Bilingual, 88.5% are Hispanic and 5.9% are Asian (Texas Education Agency, 2019).

The federal No Child Left Behind Act of 2001 established parameters for states to monitor the academic achievement of students who demonstrate Limited English Proficiency (Li et al., 2018). States are required to assess English language proficiency while ensuring that Emergent Bilingual students attain rigorous levels of academic performance, similar to their native English-speaking classmates (Flores et al., 2012). The Every Student Succeeds Act, signed by then-President Obama in 2015, removed some guidelines set forth by the No Child Left Behind Act, now requiring states to establish assessment standards that consider multiple data points when examining student growth and achievement (Fránquiz & Ortiz, 2016). Although the intent of federal assessment guidelines was to aid in closing academic achievement gaps for students, researchers (i.e., Flores et al., 2012; Pariseau, 2019; Schleeter et al., 2020) contend that the gaps still exist.

The opportunity gap between students who are Emergent Bilingual and students who are non-Emergent Bilingual is reflected in national and state reading achievement data. The National Assessment of Educational Progress, frequently referred to as "The Nation's Report Card," represents the reading academic achievement of students across the United States for selected grade levels (i.e., Grades 4, 8, and 12). Student performance is measured by four achievement levels (i.e., below basic, basic, proficient, advanced). Longitudinal data for Grade 8 students from 1998 through 2005 represent consistent opportunity gaps between Emergent Bilingual students and non-Emergent Bilingual students. Of the Grade 8 students who participated in the National Assessment of Educational Progress in 2005, approximately 71% of Emergent Bilingual students scored below basic in reading achievement (Batalova et al., 2007).

With respect to the population of interest in this investigation, Flores et al. (2012) analyzed the reading achievement trajectories of Emergent Bilingual students in Texas. They examined data from participants who were Grade 1 students in 1995 and graduated on time in 2006. Throughout their entire academic career of standardized assessments in reading, students who were Emergent Bilingual performed lower than students who were non-Emergent Bilingual. The greatest disparity in reading achievement occurred in Grade 3 with a 20% difference between Emergent Bilingual students and non-Emergent Bilingual students (Flores et al., 2012).

In a recent Texas investigation, Schleeter et al. (2020) explored the reading achievement of Grade 3 Emergent Bilingual students on the State of Texas Academic Assessment of Readiness (STAAR) as a function of their economic status. Data were examined across three school years (i.e., 2012-2013, 2013-2013, 2014-2015). With respect to all three school years, Emergent Bilingual students who were Not Poor outperformed Emergent Bilingual students who were Very Poor (i.e., qualified for the free lunch program) by at least 12% on the Final Satisfactory Performance standard. The greatest gap occurred in the 2013-2014 school year where 13.4% of students who were Not Poor performed higher than students who were Very Poor (Schleeter et al., 2020).

Another researcher (Pariseau, 2019) investigated the reading achievement of Grade 4 Emergent Bilingual boys and girls in special education on the STAAR exam. Statistically significant results were yielded in all four school years (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018). When examining the reading performance of Emergent Bilingual boys in special education, their Phase-in 1 Standard, Phase-in 2 Standard, and the Phase-in 3 Standard performance was statistically significantly poorer than the reading performance of non-Emergent Bilingual boys. With respect to Emergent Bilingual girls in special education, the same results were present. Emergent Bilingual girls had statistically significantly lower Phase-in 2 Standard and the Phase-in 3 Standard performance than non-Emergent Bilingual girls.

Researchers (Ardasheva et al., 2012; Villalobos, 2021) have expanded their examination of Emergent Bilingual students to include middle school and high school students. Ardasheva et al. (2012) investigated the academic achievement of middle school students who were formerly identified as Emergent Bilingual, current classified as Emergent Bilingual, and students who were non-Emergent Bilingual. Interestingly, students who were former Emergent Bilingual students outperformed students who were native English speakers and current Emergent Bilingual students on reading achievement. Additionally, former Emergent Bilingual students in higher poverty schools achieved slightly higher levels of reading achievement than former Emergent Bilingual students who were enrolled in a lower poverty school (Ardasheva et al., 2012).

In a recent study, Villalobos (2021) examined the English I End-of-Course Exam Performance Standard of Emergent Bilingual boys and girls. With respect to all three school years (i.e., 2016-2017, 2017-2018, 2018-2019), Emergent Bilingual girls performed higher in the Approaches Grade Level Performance than Emergent Bilingual boys. Though Emergent Bilingual girls outperformed Emergent Bilingual boys, of note is that nearly 70% of Emergent Bilingual students did not achieve the Approaches Grade Level Standard on the English I End-of-Course assessment. Across all three school years of data analyzed, approximately 90% of Emergent Bilingual students did not achieve the Meets Level Performance Standard. Of concern is that less than 1% of Emergent Bilingual students achieved the Masters Level Performance on the English I End-of-Course exam across all three school years (Villalobos, 2021). Resilla (2017) extended the research literature regarding Emergent Bilingual students to include an examination of reading college readiness by race/ethnicity (i.e., Asian, Black, Hispanic, White) across seven school years. Black Emergent Bilingual students demonstrated less than 6% of reading college readiness in five out of the seven school years of data analyzed. Less than 6% of Hispanic Emergent Bilingual students demonstrated college readiness in reading for four out of the seven years. Interestingly, in five out of the seven years examined, no White Emergent Bilingual students met the criteria for reading college readiness.

The interconnectedness of reading and writing is still being explored by researchers. Li (2012) investigated the literacy development of Emergent Bilingual students through a case study on a student who moved to the United States when she was 9 years old. Through the integration of a strong community of support, the student was able to progress from struggling with literacy to demonstrating strengths in reading and writing. Li (2012) contended that the presence of relationships and authentic social experiences generated language opportunities that then transferred to literacy.

With regard to this investigation, no published articles could be located on student language status and the Grade 4 STAAR Writing assessment. The Every Student Succeeds Act sets forth assessment guidelines for states to monitor the reading and mathematics achievement of students in Grades 3 through 8 (Fránquiz & Ortiz, 2016). Although writing is not included as one of the requirements, the Texas Education Agency chooses to require all Texas Grade 4 students to take an additional STAAR exam. The Grade 4 STAAR Writing exam is comprised of three Reporting Categories: (a) Composition, (b) Revision, and (c) Editing. In addition to multiple-choice questions, students must compose a response to an expository prompt (Texas Education Agency, 2016).

Statement of the Problem

One out of every nine students in Texas public schools is faced with the challenge of learning English (Flores et al, 2012). Of note to this study are several researchers (Li, 2012; Pariseau, 2019; Schleeter et al., 2020) who have documented the presence of language gaps within reading achievement. Although language status and reading inequalities are documented, a gap remains in the literature that needs to be addressed with regard to language status and writing performance.

Purpose of the Study

The purpose of this study was to determine the degree to which differences were present on the Grade 4 STAAR Writing exam by student language status. In this study, the first purpose was to determine the effect of language status on writing performance in three areas (i.e., Reporting Category 1: Composition, Reporting Category 2: Revision, and Reporting Category 3: Editing). A second purpose of this study was to determine the effect of language status on writing by performance standard (i.e., Approaches Grade Level standard, Meets Grade Level standard, and Masters Grade Level standard). The third purpose of this study was to ascertain the degree to which trends might be present across three years of Grade 4 STAAR Writing academic achievement data (i.e., 2016-2017, 2017-2018, and 2018-2019).

Significance of the Study

Researchers (e.g., Pariseau, 2019; Schleeter et al., 2020) have extensively examined the relationship between language status and reading achievement. However,

published research investigations on language status and writing are sparse. Although writing is recognized as an important part of literacy, additional efforts in research investigations about writing are needed (Miller & McCardle, 2011). At the time of this study, no published articles could be located on the relationship between student language status and writing academic achievement as measured by the Texas statemandated STAAR Writing assessment.

Previously, Texas Grade 4 students were assessed on the STAAR Reading and the STAAR Writing exams. However, the STAAR assessment is undergoing a redesign process. Beginning 2022-2023, the Grade 4 STAAR Reading test and the Grade 4 STAAR Writing test will be combined into one assessment (Texas Education Agency, 2021). Therefore, results from this investigation will provide a baseline study on the Grade 4 STAAR Writing assessment. Additionally, results from this study may expand the body of research surrounding reading academic achievement to include writing academic achievement. By analyzing the writing performance by student language status, the relationship between student who are Emergent Bilingual and students who are non-Emergent Bilingual and writing achievement can be discovered. Findings in this study may have practical applications for Texas elementary school educators regarding literacy instruction. Additionally, results from this investigation may be utilized to help drive policy decisions pertaining to state-mandated high-stakes assessments.

Research Questions

The following overarching research question was addressed in this investigation: What is the difference in the writing performance of Grade 4 Texas students as a function of their language status (i.e., Emergent Bilingual, non-Emergent Bilingual)? Specific subquestions under this overarching research question were: (a) What is the difference in the composition category performance of Grade 4 Texas students as a function of their language status?; (b) What is the difference in the revision category performance of Grade 4 Texas students as a function of their language status?; (c) What is the difference in the editing category performance of Grade 4 Texas students as a function of their language status?; (d) What is the difference between student who are Emergent Bilingual and students who are non-Emergent Bilingual in their Approaches Grade Level standard performance?; (e) What is the difference between students who are Emergent Bilingual and students who are non-Emergent Bilingual in their Meets Grade Level standard performance?; (f) What is the difference between students who are Emergent Bilingual and students who are non-Emergent Bilingual in their Masters Grade Level standard performance? (g) What trend is present in the Writing Reporting categories by student language status across three school years?; and (h) What trend is present in grade level standard performance by student language status across three school years? The first six research questions were repeated for the 2016-2017, 2017-2018, and 2018-2019 school years whereas the last two research questions involved all three school years.

Method

Research Design

For this empirical investigation, the research design was causal-comparative, nonexperimental research design (Johnson & Christensen, 2020). Causal-comparative research is used to discover relationships between independent and dependent variables. In this study, actions occurred in the past, thus eliminating the ability to manipulate the independent variables (Johnson & Christensen, 2020). An archival dataset of the Grade 4 STAAR Writing test was examined to determine the relationship between student language status and student achievement in writing. The independent variable in this research study was language status (i.e., Emergent Bilingual, non-Emergent Bilingual) and the dependent variables were the three STAAR Writing Reporting Categories (i.e., Reporting Category 1: Composition, Reporting Category 2: Revision, and Reporting Category 3: Editing) and the three writing performance standards (i.e., Approaches Grade Level standard, Meets Grade Level standard, and Masters Grade Level standard).

Participants and Instrumentation

Data for this study were previously obtained from the Texas Education Agency Public Education Information Management System for the 2016-2017, 2017-2018, and 2018-2019 school years. More recent data could not be used due to high-stakes test interruptions from the COVID-19 pandemic. To obtain these data (i.e., 2016-2017, 2017-2018, 2018-2019), a Public Information Request was submitted to and fulfilled by the Texas Education Agency. Data that were previously obtained were analyzed to determine the degree to which student language status (i.e., Emergent Bilingual, non-Emergent Bilingual) was related to student writing performance in each of the three school years. Students who are Emergent Bilingual demonstrate limited English proficiency and speak a primary language other than English (English Learner Portal, 2021, p. 1).

The Grade 4 STAAR Writing exam assesses student achievement across three Reporting Categories. Students compose an expository response based upon a provided prompt as required by the STAAR Writing Reporting Category 1. Multiple-choice questions comprise STAAR Writing Reporting Categories 2 and 3 where revision and editing are assessed (Texas Education Agency, 2016).

In addition to the three STAAR Writing Reporting Categories, writing performance on the STAAR performance standards (i.e., Did Not Meet Grade Level Performance, Approaches Grade Level Performance, Meets Grade Level Performance, and Masters Grade Level Performance) was examined. Performance in the Did Not Meet Grade Level Performance indicates that students are unlikely to demonstrate success in the next grade level without significant and continuing intervention. Performance in the Approaches Grade Level Performance indicates students require focused academic intervention to demonstrate success in the next grade. Performance in the Meets Grade Level Performance indicates students may require some short-term academic intervention but demonstrate a high prospect of success at the next grade level. Performance in the Masters Grade Level Performance Standard indicates students require little or no academic intervention to be successful at the next grade level (Texas Education Agency, 2017).

Results

To determine the extent to which differences were present in the writing performance of students as a function of their language status (i.e., Emergent Bilingual, non-Emergent Bilingual), statistical analyses for the 2016-2017, 2017-2018, and 2018-2019 school years were conducted. Prior to conducting inferential statistical procedures, the underlying assumptions of the Multivariate Analysis of Variance (MANOVA) procedures were checked. Specifically examined were data normality, Box's Test of Quality of Covariance, and the Levene's Test of Quality of Error Variances. Although the majority of these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use in this investigation (Field, 2018). Results of statistical analyses for Grade 4 STAAR Writing performance by student language status will be described first by Writing Reporting Categories and then by performance standards. Results in this study will be discussed in chronological order for the 2016-2017, 2017-2018, and 2018-2019 school years.

Overall Results for the Three School Years

Concerning the 2016-2017 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .94$, p < .001, partial $\eta^2 = .06$, in the number of test items answered correctly as a function of language status. The effect size for this statistically significant difference was moderate (Cohen, 1998). With respect to the 2017-2018 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .97$, p < .001, partial $\eta^2 = .03$, in the number of test items answered correctly as a function of language status. Using Cohen's (1988) criteria, the effect size was small. Regarding the 2018-2019 school year, the MANOVA revealed a statistically significant

difference, Wilks' $\Lambda = .96$, p < .001, partial $\eta^2 = .04$, small effect size, in the number of test items answered correctly as a function of language status. In the 2016-2017 school year, the effect size was moderate. In the 2017-2018 and 2018-2019 school years, effect sizes were small.

Writing Reporting Category 1 Results Across all Three School Years

Following the overall results of the MANOVA, univariate follow-up Analysis of Variance (ANOVA) procedures were conducted for each of the three STAAR Writing Reporting Categories. For the 2016-2017 school year, a statistically significant difference in the Writing Reporting Category 1 by student language status was yielded, F(1,196945) = 910.09, p < .001, partial $\eta^2 = .01$, small effect size. Concerning the 2017-2018 school year, a statistically significant difference was revealed on the STAAR Writing Reporting Category 1 by student language status, F(1,163245) = 1588.50, p < .001, partial $\eta^2 = .01$, small effect size. With respect to the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 1 by student language status, F(1,163245) = 1588.50, p < .001, partial $\eta^2 = .01$, small effect size. With respect to the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 1 by student language status, F(1,164495) = 2667.91, p < .001, partial $\eta^2 = .02$, small effect size. Effects sizes were small for all three school years.

Students who were Emergent Bilingual answered statistically significantly fewer items correctly on Writing Reporting Category 1 than students who were non-Emergent Bilingual in all three of the school years examined. Students who were Emergent Bilingual answered 0.23, 0.36, and 0.46 fewer items correctly, respectively than did students who were non-Emergent Bilingual. Table 4.1 contains the descriptive statistics for this analysis. Insert Table 4.1 about here

Writing Reporting Category 2 Results Across all Three School Years

Regarding the 2016-2017 school year, a statistically significant difference in the Writing Reporting Category 2 by student language status was yielded, F(1,196945) = 11229.96, p < .001, partial $\eta^2 = .05$, small effect size. For the 2017-2018 school year, a statistically significant difference was revealed on the STAAR Writing Reporting Category 2 by student language status, F(1,163245) = 3927.48, p < .001, partial $\eta^2 = .02$, small effect size. Concerning the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 2 by student language status, F(1,163245) = 3927.48, p < .001, partial $\eta^2 = .02$, small effect size. Concerning the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 2 by student language status, F(1,164495) = 5955.56, p < .001, partial $\eta^2 = .03$, small effect size. Effects sizes were small for all three school years.

Students who were Emergent Bilingual answered statistically significantly fewer items correctly on Writing Reporting Category 2 than did students who were non-Emergent Bilingual in all three of the school years examined. The difference in performance for the Writing Reporting Category 2 by school year was that students who were Emergent Bilingual answered 1.09, 0.75, and 0.80 fewer items correctly, respectively than did students who were non-Emergent Bilingual. Delineated in Table 4.2 are the descriptive statistics for this analysis.

Insert Table 4.2 about here

Writing Reporting Category 3 Results Across all Three School Years

Regarding the 2016-2017 school year, a statistically significant difference in the Writing Reporting Category 3 by student language status was yielded, F(1,196945) = 3376.81, p < .001, partial $\eta^2 = .02$, small effect size. For the 2017-2018 school year, a statistically significant difference was revealed on the STAAR Writing Reporting Category 3 by student language status, F(1,163245) = 4661.67, p < .001, partial $\eta^2 = .03$, small effect size. Concerning the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 3 by student language status, F(1,163245) = 4661.67, p < .001, partial $\eta^2 = .03$, small effect size. Concerning the 2018-2019 school year, a statistically significant difference was again yielded on the STAAR Writing Reporting Category 3 by student language status, F(1,164495) = 4905.14, p < .001, partial $\eta^2 = .03$, small effect size. Effects sizes were small for all three school years.

Students who were Emergent Bilingual answered statistically significantly fewer items correctly on Writing Reporting Category 3 than did students who were non-Emergent Bilingual in all three of the school years examined. The difference in performance for the Writing Reporting Category 3 by school year was that students who were Emergent Bilingual answered 1.08, 1.42, and 1.37 fewer items correctly, respectively than students who were non-Emergent Bilingual. Revealed in Table 4.3 are the descriptive statistics for this analysis.

Insert Table 4.3 about here

Performance Standard Results

Student scores on the three STAAR Performance Standards (i.e., Approaches Grade Level Standard, Meets Grade Level Standard, Masters Grade Level Standard) were examined through the use of Pearson chi-square procedures. This statistical procedure was the most appropriate statistical procedure to use because dichotomous data were present for all three STAAR Performance Standards (i.e., met or did not meet this standard) and for student language status (i.e., non-Emergent Bilingual, Emergent Bilingual). As such, chi-square procedures are the preferred statistical procedure when all variables are categorical (Field, 2018). The assumptions for utilizing a chi-square were met because a large sample size was present.

Approaches Grade Level Standard Results Across all Three School Years

Concerning the Approaches Grade Level Standard by language status, the result for the 2016-2017 school year was statistically significant, $\chi^2(1) = 3343.20$, p < .001. The effect size for this finding, Cramer's V, was small, .13 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Approaches Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 14.3% more students who met this standard than students who were Emergent Bilingual. Readers are referred to Table 4.4 for the frequencies and percentages for the 2016-2017 school year.

Insert Table 4.4 about here

Regarding the 2017-2018 school year, a statistically significant difference was present, $\chi^2(1) = 3900.45$, p < .001. The effect size yielded for this finding, Cramer's V, was small, .16 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Approaches Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 17.1% more students who met this standard than students who were Emergent Bilingual. Delineated in Table 4.4 are the frequencies and percentages for the 2017-2018 school year.

With respect to the 2018-2019 school year, a statistically significant difference was present, $\chi^2(1) = 3806.79$, p < .001, small effect size, Cramer's V of .15 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Approaches Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 16.0% more students who met this standard than students who were Emergent Bilingual. Table 4.4 contains the frequencies and percentages for the 2018-2019 school year.

Meets Grade Level Standard Results Across all Three School Years

Regarding the Meets Grade Level Standard by language status, the result for the 2016-2017 school year was statistically significant, $\chi^2(1) = 3572.02$, p < .001. The effect size for this finding, Cramer's V, was small, .14 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Meets Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 15.3% more students who met this standard than students who

were Emergent Bilingual. Table 4.5 contains the frequencies and percentages for the 2016-2017 school year.

Insert Table 4.5 about here

With respect to the 2017-2018 school year, a statistically significant difference was present, $\chi^2(1) = 5201.99$, p < .001. The effect size yielded for this finding, Cramer's V, was small, .18 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Meets Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 21.2% more students who met this standard than students who were Emergent Bilingual. Readers are referred to Table 4.5 for the frequencies and percentages for the 2017-2018 school year.

Concerning the 2018-2019 school year, a statistically significant difference was present, $\chi^2(1) = 3918.46$, p < .001, small effect size, Cramer's V of .15 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Meets Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 18.0% more students who met this standard than students who were Emergent Bilingual. Delineated in Table 4.5 are the frequencies and percentages for the 2018-2019 school year.

Masters Grade Level Standard Results Across all Three School Years

With respect to the Masters Grade Level Standard by language status, the result for the 2016-2017 school year was statistically significant, $\chi^2(1) = 2301.53$, p < .001. The effect size for this finding, Cramer's V, was small, .12 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Masters Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 8.5% more students who met this standard than students who were Emergent Bilingual. Readers are referred to Table 4.6 for the frequencies and percentages for the 2016-2017 school year.

Insert Table 4.6 about here

Regarding the 2017-2018 school year, a statistically significant difference was present, $\chi^2(1) = 1896.90$, p < .001. The effect size yielded for this finding, Cramer's V, was small, .11 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Masters Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 9.0% more students who met this standard than students who were Emergent Bilingual. Table 4.6 contains the frequencies and percentages for the 2017-2018 school year.

Concerning the 2018-2019 school year, a statistically significant difference was present, $\chi^2(1) = 1473.15$, p < .001, small effect size, Cramer's V of .10 (Cohen, 1988). Statistically significantly higher percentages of students who were non-Emergent Bilingual met the Masters Grade Level Performance than students who were Emergent Bilingual. Students who were non-Emergent Bilingual had 7.8% more students who met this standard than students who were Emergent Bilingual. Delineated in Table 2.6 are the frequencies and percentages for the 2018-2019 school year.

Discussion

In this investigation, the extent to which differences were present in Grade 4 STAAR Writing performance by student language status was analyzed for the 2016-2017, 2017-2018, and 2018-2019 school years. Statewide data on the Grade 4 STAAR Writing Reporting Categories were examined for students who were Emergent Bilingual and students who were non-Emergent Bilingual. Statistically significant results were present in all three school years. Following these statistical analyses, the three Performance Standards by language status were examined and yielded statistically significant results in all three school years.

Connections with Existing Literature

Students who are considered Emergent Bilingual demonstrate limited linguistic proficiency and speak a primary language other than English (English Learner Portal, 2021, p. 1). During the 2018-2019 school year, 19.4% of students enrolled in Texas public schools were classified as Emergent Bilingual (Texas Education Agency, 2019). The language-based opportunity gap between students who are Emergent Bilingual and students who are non-Emergent Bilingual is well documented by researchers (e.g., Pariseau, 2019; Schleeter et al., 2020). Flores et al. (2012) facilitated a longitudinal investigation and researchers (e.g., Resilla, 2017; Villalobos, 2021) conducted multiyear statewide investigations with respect to the academic achievement of students who are Emergent Bilingual.

Flores et al. (2012) analyzed the reading achievement trajectories of Emergent Bilingual students in Texas who were Grade 1 students in 1995 and graduated on time in 2006. In their study, students who were Emergent Bilingual performed lower than students who were non-Emergent Bilingual throughout the entirety of their experience in school. In a recent Texas study, Villalobos (2021) examined the English I End-of-Course Exam Performance Standard of Emergent Bilingual boys and girls. Of the years examined (i.e., 2016-2017, 2017-2018, 2018-2019), nearly 70% of Emergent Bilingual students did not achieve the Approaches Grade Level Standard on the English I End-of-Course assessment. Additionally, of concern, is that nearly 90% of Emergent Bilingual students did not achieve the Meets Level Performance Standard (Villalobos, 2021). In this statewide investigation, students who were non-Emergent Bilingual were more likely to outperform students who were Emergent Bilingual. The results of this study are commensurate with the outcomes of other researchers (e.g., Resilla, 2017; Villalobos, 2021) who demonstrated the presence of lower literacy academic performance for students who are Emergent Bilingual.

Implications for Policy and Practice

As indicated in this empirical investigation, language status has a negative influence on student writing performance. Several implications for policy are recommended. Additional funds need to be deployed to school districts based on the number of students who are classified as Emergent Bilingual. The additional funds can provide supplemental linguistic supports so that students who are Emergent Bilingual meet grade level expectation on writing performance. Furthermore, it is recommended that the Texas Education Agency conduct a program audit (e.g., Bilingual Program, Dual Language Program, English as a Second Language) while examining the corresponding academic achievement of Emergent Bilingual students across each program type. It is then that the Texas Education Agency could draft plans to help support high levels of academic achievement for students who are Emergent Bilingual.

Additionally, several implications for practice are recommended. With the continued increased enrollment of students who are Emergent Bilingual (National Center for Education Statistics, 2021), school district leaders need to provide focused professional development that reinforce linguistic strategies. In addition, educators are encouraged to provide multiple cross-curricular writing opportunities for all students, particularly for students who are Emergent Bilingual. Educators are also encouraged to provide metalinguistic learning opportunities for students that incorporate the language domains of listening, speaking, and reading.

Recommendations for Future Research

Several recommendations for further research investigations can be made given the results of this empirical investigation. A first recommendation would be for researchers to examine the relationship between the Grade 4 STAAR Writing exam and other student demographic characteristics (e.g., economic status, gender, race/ethnicity). Additionally, researchers are encouraged to explore other grade levels (e.g., Grade 7 STAAR Writing) to allow for the identification of writing performance. Data for this study were limited to the State of Texas. The extent to which results of this study can be generalized to other states is unknown. Accordingly, it is recommended that researchers expand the study of student writing performance on standardized tests to include other states. Researchers are also encouraged to analyze trends across other subject areas (e.g., mathematics, reading) to determine if trends are present across multiple core content subjects.

Conclusion

The purpose of this research study was to determine the extent to which differences were present in the writing performance of elementary students as a function of language status. Inferential statistical analyses of three years of Texas statewide data indicated the presence of statistically significant differences in the writing performance as indicated by language status. In each school year, students who were non-Emergent Bilingual outperformed students who were Emergent Bilingual on the Grade 4 STAAR Writing assessment. Consistent with previous researchers (e.g., Resilla, 2017; Villalobos, 2021), students who were non-Emergent Bilingual outperformed students who were Emergent Bilingual in the Writing Reporting Categories and the performance standards in all three school years.

References

Ardasheva, Y., Tretter, T. R., & Kinny, M. (2012). English language learners and academic achievement: Revisiting the threshold hypothesis. *Language Learning*, 62(3), 769-812. https://www.doi:org/10.1111/j.1467-9922.2011.00652.x

Batalova, J., Fix, M., & Murray, J. (2007). Measures of change: The demography and literacy of adolescent English Learners.

https://www.migrationpolicy.org/pubs/Measures_of_Change.pdf

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.
- English Learner Portal. (2021). *Supporting English Learners in Texas*. https://www.txel.org/specialprograms/?tab=tab2

Field, A. (2018). Discovering statistics using IBM SPSS Statistics. Sage.

Flores, S. M., Batalova, J., & Fix, M. (2012). The educational trajectories of English Language Learners in Texas.

https://www.migrationpolicy.org/pubs/TexasELLs.pdf

- Fránquiz, M. E., & Ortiz, A. A. (2016). Co-editors' introduction: Every Student Succeeds Act-A policy shift. *Bilingual Research Journal*, 39(1), 1-3. https://www.doi.org/10.1080/15235882.2016.1148996
- Johnson, R. B., & Christensen, L. (2020). Educational research: Quantitative, qualitative, and mixed methods approaches (7th ed.). Sage.
- Li, C., Kruger, L. J., Beneville, M., Kimble, E., & Krishnan, K. (2018). The unintended consequences of high-stakes testing on English Language Learners: Implications for the practice of school psychology. *School Psychology Forum*, 12(3), 79-90.

- Li, G. (2012). Literacy engagement through online and offline communities outside school: English Language Learners' development as readers and writer. *Theory Into Practice 51*, 312-318. https://www.doi.org/10.1080/00405841.2012.726061
- Miller, B., & McCardle, P. (2011). Reflections on the need for continued research on writing. *Reading and Writing: An Interdisciplinary Journal*, 24(2), 121-132. http://doi.org/10.1007/s11145-010-9267-6
- National Center for Education Statistics. (2021). *English Language Learners in public schools*. https://nces.ed.gov/programs/coe/indicator/cgf
- Pariseau, M. M. (2019). Differences in reading as a function of the economic status, ethnicity/race, and English Language Learner status of Texas Grade 4 boys and girls in special education: A multiyear statewide investigation (Publication No. 27805273) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Resilla, C. A. (2017). Differences in the college-readiness rates of English Language Learners by gender, economic status, and ethnicity/race: A Texas statewide, multiyear investigation (Publication No. 10756388) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Schleeter, G. D., Slate, J. R., Moore, G. W., & Lunenburg, F.C. (2020). Reading inequalities by the economic status of Texas Grade 3 English Language Learners: A Texas, multiyear analysis. *Journal of Education and Learning*, *14*(1). https://doi.org/10.11591/edulearn.v14i1.13893
- Slate J. R., & Moore, G. W. (2018). *Presenting and communicating your statistical results: A guide for educational leaders.* ICPEL Publications.
Texas Education Agency. (2016). STAAR Grade 4 Writing blueprint.

https://tea.texas.gov/sites/default/files/Blueprint%20STAAR%20Gr%204%20Wri ting%202016.pdf

Texas Education Agency. (2017). State of Texas Assessments of Academic Readiness (STAAR) performance labels and policy definitions. https://tea.texas.gov/sites/default/files/STAAR_Performance_Labels_and_Policy_ Definitions.pdf

- Texas Education Agency. (2019). Enrollment in Texas public schools 2018-19. https://tea.texas.gov/sites/default/files/enroll_2018-19.pdf
- Texas Education Agency. (2021). *STAAR redesign*. https://tea.texas.gov/student-assessment/assessment-initiatives/hb-3906/staar-redesign

Villalobos, Y. J. (2021). Differences in Algebra I, English I and English II, and U.S. History end-of-course exam grade level performance of Texas high school English Learners by gender: A multiyear statewide investigation [Doctoral dissertation, Sam Houston State University]. Scholarly Works @ SHSU. https://hdl.handle.net/20.500.11875/3221

Descriptive Statistics for the STAAR Grade 4 Reporting Category 1 Scores by Student

School Year and Language Status	n	М	SD
2016-2017			
Non-Emergent Bilingual	150,278	3.92	1.46
Emergent Bilingual	46,669	3.69	1.43
2017-2018			
Non-Emergent Bilingual	126,204	4.16	1.55
Emergent Bilingual	37,043	3.80	1.44
2018-2019			
Non-Emergent Bilingual	126,122	3.94	1.55
Emergent Bilingual	38,375	3.48	1.48

Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

Descriptive Statistics for the STAAR Grade 4 Reporting Category 2 Scores by Student

School Year and Language Status	п	М	SD
2016-2017			
Non-Emergent Bilingual	150,278	5.59	1.92
Emergent Bilingual	46,669	4.50	1.97
2017-2018			
Non-Emergent Bilingual	126,204	4.72	2.03
Emergent Bilingual	37,043	3.97	1.99
2018-2019			
Non-Emergent Bilingual	126,122	5.39	1.77
Emergent Bilingual	38,375	4.59	1.82

Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

Descriptive Statistics for the STAAR Grade 4 Reporting Category 3 Scores by Student

School Year and Language Status	п	М	SD
2016-2017			
Non-Emergent Bilingual	150,278	10.90	3.49
Emergent Bilingual	46,669	9.82	3.52
2017-2018			
Non-Emergent Bilingual	126,204	11.75	3.48
Emergent Bilingual	37,043	10.33	3.63
2018-2019			
Non-Emergent Bilingual	126,122	11.73	3.32
Emergent Bilingual	38,375	10.36	3.45

Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

Frequencies and Percentages for the STAAR Grade 4 Approaches Grade Level Standard by Student Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

	Did Not Meet Standard		Met Standard	
School Year and Language Status	n	%	n	%
2016-2017				
Non-Emergent Bilingual	43,014	28.6	107,264	71.4
Emergent Bilingual	20,029	42.9	26,640	57.1
2017-2018				
Non-Emergent Bilingual	34,199	27.1	92,005	72.9
Emergent Bilingual	16,359	44.2	20,684	55.8
2018-2019				
Non-Emergent Bilingual	29,050	23.0	97,072	77.0
Emergent Bilingual	14,949	39.0	23,426	61.0

Frequencies and Percentages for the STAAR Grade 4 Meets Grade Level Standard by

	Did Not Meet Standard		Met Sta	ndard
School Year and Language Status	п	%	п	%
2016-2017				
Non-Emergent Bilingual	88,197	58.7	62,081	41.3
Emergent Bilingual	34,552	74.0	12,117	26.0
2017-2018				
Non-Emergent Bilingual	62,787	49.8	63,417	50.2
Emergent Bilingual	26,290	71.0	10,753	29.0
2018-2019				
Non-Emergent Bilingual	68,281	54.1	57,841	45.9
Emergent Bilingual	27,680	72.1	10,695	27.9

Student Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

Frequencies and Percentages for the STAAR Grade 4 Masters Grade Level Standard by Student Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years

	Did Not M	eet Standard	Met Sta	et Standard	
School Year and Language Status	п	%	п	%	
2016-2017					
Non-Emergent Bilingual	128,049	85.2	22,229	14.8	
Emergent Bilingual	43,727	93.7	2,942	6.3	
2017-2018					
Non-Emergent Bilingual	105,817	83.8	20,387	16.2	
Emergent Bilingual	34,379	92.8	2,664	7.2	
2018-2019					
Non-Emergent Bilingual	106,358	84.3	19,764	15.7	
Emergent Bilingual	35,329	92.1	3,046	7.9	

Figure 4.1

Grade 4 STAAR Writing Approaches Grade Level Performance Standard by Student

Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years



Figure 4.2

Grade 4 STAAR Writing Meets Grade Level Performance Standard by Student Language

Status for the 2016-2017, 2017-2018, and 2018-2019 School Years



Figure 4.3

Grade 4 STAAR Writing Masters Grade Level Performance Standard by Student

Language Status for the 2016-2017, 2017-2018, and 2018-2019 School Years



CHAPTER V

DISCUSSION

The overarching purpose of this journal-ready dissertation was to determine the degree to which differences existed in Grade 4 STAAR Writing performance by student economic status, gender, and language status. In the first article, the purpose was to investigate the extent to which student economic status (i.e., Not Poor, Moderately Poor, Extremely Poor) affected their writing performance. In the second article, the purpose was to ascertain the degree to which boys and girls differed in their writing performance. In the third article, the purpose was to determine the extent to which student language status (i.e., Emergent Bilingual, non-Emergent Bilingual) influenced their writing performance. In each of these articles, the degree to which trends were present in student writing performance by their economic status, gender, and language status was addressed over a 3-year time period. In this chapter, the results of the three articles are synthesized and a summary of each of the three articles is provided. Implications for policy and practice are discussed along with recommendations for future research.

Summary of Results for Study One

Presented in Table 5.1 is a summary of the results for Texas Grade 4 students by their economic status who took the Grade 4 STAAR Writing exam in the 2016-2017 through the 2018-2019 school years. Statistically significant differences in writing performance were present by student economic status in all three school years. For each of the three school years, effect sizes were either moderate or large. Regarding the 2016-2017 school year, students who were Not Poor answered 0.56 more items correctly than did than students who were Moderately Poor and answered 0.78 more items correctly than did students who were Extremely Poor. Students who were Moderately Poor answered 0.22 items more correctly than students who were Extremely Poor. Concerning the 2017-2018 school year, students who were Not Poor answered 0.89 more items correctly than students who were Moderately Poor and answered 0.92 more items correctly than students who were Extremely Poor. With respect to the 2018-2019 school year, students who were Not Poor answered 0.79 more items correctly than students who were Moderately Poor and 0.99 more items correctly than students who were Moderately Poor and 0.99 more items correctly than students who were Extremely Poor. Students who were Moderately Poor answered 0.20 more items correctly than students who were Extremely Poor.

A clear stair-step effect (Carpenter et al., 2006) was present in that the higher the degree of poverty, the lower writing performance was for each Writing Reporting Category. In addition, the higher the degree of poverty, the lower the percentage of students who met the Masters Level Performance Standard. Overwhelmingly established herein was that student writing performance in Grade 4 was directly influenced by their degree of poverty.

Table 5.1

Summary of the Writing Performance Results for the Grade 4 STAAR Writing Exam as a

School Year and Writing	Statistically	Effect Size	Lowest
Category	Significant		Performing Group
2016-2017			
Reporting Category 1	Yes	Moderate	Extremely Poor
Reporting Category 2	Yes	Large	Extremely Poor
Reporting Category 3	Yes	Moderate	Extremely Poor
2017-2018			
Reporting Category 1	Yes	Moderate	Extremely Poor
Reporting Category 2	Yes	Large	Extremely Poor
Reporting Category 3	Yes	Large	Extremely Poor
2018-2019			
Reporting Category 1	Yes	Moderate	Extremely Poor
Reporting Category 2	Yes	Near Large	Extremely Poor
Reporting Category 3	Yes	Large	Extremely Poor

Function of Poverty for the 2016-2017 Through the 2018-2019 School Years

Summary of Results for Study Two

Summaries of the statistical analyses of Texas Grade 4 boys and girls who took the STAAR Writing assessment during the 2016-2017 through 2018-2019 school years are included in Table 5.2. In all three school years examined, statistically significant differences in the Grade 4 STAAR Writing performance by gender were revealed. In all three Writing Reporting Categories, the effect size was small or below small. Girls outperformed boys in each of the three school years. Regarding the Performance Standards, once again, girls outperformed boys in the Approaches Grade Level Performance Standard, Meets Grade Level Performance Standard, and Masters Grade Level Performance Standard. With respect to the Approaches Grade Level Performance Standard, girls achieved 10.6%, 8.8%, and 6.6% higher than boys. Concerning the Meets Grade Level Performance Standard, girls achieved 9.8%, 8.4%, and 11.6% higher than boys. With respect to the Masters Grade Level Performance Standard, girls achieved

5.2%, 5.3%, and 20.8% higher than boys.

Table 5.2

Summary of Writing Performance Results for the Grade 4 STAAR Writing Exam by

School Year and Writing	Statistically	Effect Size	Lowest
Category	Significant		Performing Group
2016-2017			
Reporting Category 1	Yes	Small	Boys
Reporting Category 2	Yes	Small	Boys
Reporting Category 3	Yes	Small	Boys
2017-2018			
Reporting Category 1	Yes	Small	Boys
Reporting Category 2	Yes	Below Small	Boys
Reporting Category 3	Yes	Small	Boys
2018-2019			
Reporting Category 1	Yes	Small	Boys
Reporting Category 2	Yes	Small	Boys
Reporting Category 3	Yes	Small	Boys

Gender for the 2016-2017 Through the 2018-2019 School Years

Summary of Results for Study Three

Revealed in Table 5.3 are the results of the statistical analyses of Texas Grade 4 students by language status (i.e., Emergent Bilinugal, non-Emergent Bilingual) who took the STAAR Writing exam during the 2016-2017 through 2018-2019 school years. In all three school years examined, statistically significant differences were present in the Writing Reporting Categories by language status. Across all three Writing Reporting Categories, small effect sizes were present. Students who were non-Emergent Bilingual outperformed students who were Emergent Bilingual. With respect to the Performance Standards, once again, students who were non-Emergent Bilingual outperformed who were Emergent Bilingual in the Approaches Grade Level Performance Standard, Meets Grade Level Performance Standard, and Masters Grade Level Performance Standard. Concerning the Approaches Grade Level Performance Standard, students who were non-Emergent Bilingual achieved 14.3%, 17.1%, and 16.0% higher than students who were Emergent Bilingual. Regarding the Meets Grade Level Performance Standard, students who were non-Emergent Bilingual achieved 15.3%, 21.2%, and 18.0% higher than students who were Emergent Bilingual. With respect to the Masters Grade Level Performance Standard, students who were non-Emergent Bilingual achieved 8.5%, 9.0%, and 7.8% higher than students who were Emergent Bilingual.

Table 5.3

Summary of the Writing Performance Results for the Grade 4 STAAR Writing Exam by

School Year and Writing	Statistically	Effect Size	Lowest Performing
Category	Significant		Group
2016-2017			
Reporting Category 1	Yes	Small	Emergent Bilingual
Reporting Category 2	Yes	Small	Emergent Bilingual
Reporting Category 3	Yes	Small	Emergent Bilingual
2017-2018			
Reporting Category 1	Yes	Small	Emergent Bilingual
Reporting Category 2	Yes	Small	Emergent Bilingual
Reporting Category 3	Yes	Small	Emergent Bilingual
2018-2019			
Reporting Category 1	Yes	Small	Emergent Bilingual
Reporting Category 2	Yes	Small	Emergent Bilingual
Reporting Category 3	Yes	Small	Emergent Bilingual

Language Status for the 2016-2017 Through the 2018-2019 School Years

Connections with Existing Literature

Results from this multiyear statewide investigation are commensurate with previous researchers (e.g., Aikens & Barbarin, 2008; Hamilton et al., 2021; Harris, 2018; Hernandez, 2012; McGown, 2016; Resilla, 2017; Schleeter et al., 2020) who examined

student academic performance as a function of economic status, gender, and language status. Regarding the effect of poverty on student performance, Garrett-Peters et al. (2016) contended that family income serves as the best predictor of academic success in school. Unfortunately, the income-based opportunity gap has increased rapidly in the last 30 years (Olszewski-Kubilius & Corwith, 2018). In an analysis conducted by Reardon (2013) regarding family income and academic performance over 50 years, the incomebased opportunity gap has increased, now exceeding the race-based opportunity gap. Results from this study were congruent with the existing literature in which poverty was clearly connected to student academic performance on standardized assessments.

Concerning the writing performance of boys and girls, the results of this investigation are commensurate with other researchers (e.g., Brozo et al., 2014; Chudowsky & Chudowsky, 2010) where girls outperform boys. The gender-based opportunity gap begins when children are young. Girls have statistically significantly higher pre-literacy skills than boys (e.g., Below et al., 2010; Bourke & Adams, 2012; Wei et al., 2015). Many researchers (e.g., Harris, 2018; McGown, 2016; Schleeter, 2017) have explored the academic performance of boys and girls on literacy-based standardized assessments. Once again, results from this study were commensurate with the existing literature in which gender affected student academic performance on the Grade 4 STAAR Writing exam.

With respect to language status, the opportunity gap between students who are Emergent Bilingual and students who are non-Emergent Bilingual is reflected in national and state literacy achievement data (Batalova et al., 2007). Findings are congruent across researchers (e.g., Pariseau, 2019; Resilla, 2017; Schleeter et al., 2020; Villalobos, 2021), students who are non-Emergent Bilingual achieve lower levels of academic achievement than students who are Emergent Bilingual. Similar to the income-based and the genderbased opportunity gaps, results from this investigation are congruent with other researchers, students who are non-Emergent Bilingual outperform students who were Emergent Bilingual.

Implications for Policy and Practice

Several implications for policy are recommended based on the findings in this investigation. Additional funds need to be deployed to support student achievement across Texas public schools. Such funds could be used to support the purchase of instructional materials and the deployment of personnel to support closing the incomebased, gender-based, and language-based opportunity gaps. Furthermore, the Texas Education Agency is encouraged to conduct a collaborative analysis of all standardized testing in the state and begin discussions about a redesign that gives independent school districts more local authority.

Reading is often taught is isolation from writing (Collins et al., 2017). Therefore, several implications for practice are recommended. School districts are encouraged to develop an integrated curriculum that provides students with multiple opportunities to simultaneously read and write. Additionally, educators are encouraged to facilitate writing opportunities across all content areas (e.g., mathematics, science, social studies). Furthermore, it is recommended that school district leaders provide professional development that supports teachers in the implementation of research-based strategies within writing instruction.

Recommendations for Future Research

Given the results of the three studies conducted in this empirical multiyear journal-ready dissertation, several recommendations for further research regarding the income-based, gender-based, and language-based opportunity gaps can be made. A first recommendation would be for researchers to examine the relationship between the Grade 4 STAAR Writing exam and other student demographic characteristics (e.g., race/ethnicity). Additionally, researchers are encouraged explore other grade levels (e.g., Grade 7 STAAR Writing) to allow for a longitudinal analysis of student writing performance. As a result of House Bill 3906, the STAAR assessment is experiencing a redesign, eliminating the separate writing assessment for Grade 4 students. Beginning in the 2022-2023 school year, the STAAR assessment will incorporate writing and reading into a single assessment (Texas Education Agency, 2021d). As such, it is recommended that researchers examine the reading and writing performance on the redesigned STAAR exam. Additionally, data for this study were limited to the State of Texas. The extent to which results of the studies conducted in this journal-ready dissertation can be generalized to other states is unknown. Accordingly, it is recommended that researchers expand the study of student writing performance on standardized tests to include other states. Researchers are also encouraged to analyze trends across other subject areas (e.g., mathematics, reading) to determine if trends are present across multiple core content subjects.

Conclusion

In this multiyear journal-ready dissertation, the degree to which differences were present in the writing performance of Texas Grade 4 students as a function of economic status, gender, and language status was addressed. Regarding economic status, a clear stair-step effect (Carpenter et al., 2006) was established in all three school years. Students who were Not Poor had the highest writing scores, followed by students who were Moderately Poor, and then by students who Extremely Poor. With respect to gender, girls had higher writing scores than boys in all three school years. Concerning language status, students who were non-Emergent Bilingual scored higher than students who were Emergent Bilingual. Results from all three investigations were commensurate with existing literature.

REFERENCES

- Aikens, N. L., & Barbarin, O. (2008). Socioeconomic differences in reading trajectories: The contribution of family, neighborhood, and school contexts. *Journal of Educational Psychology*, 100(2), 235-251. https://doi.org/10.1037/0022-0663.100.2.235
- Ardasheva, Y., Tretter, T. R., & Kinny, M. (2012). English language learners and academic achievement: Revisiting the threshold hypothesis. *Language Learning*, 62(3), 769-812. https://www.doi.org/10.1111/j.1467-9922.2011.00652.x

Ayers, L. (1909). Laggards in our schools. Russell Sage Foundation.

Batalova, J., Fix, M., & Murray, J. (2007). Measures of change: The demography and literacy of adolescent English Learners.

https://www.migrationpolicy.org/pubs/Measures_of_Change.pdf

- Below, J. L., Skinner, C. H., Fearrington, J. Y., & Sorrell, C. A. (2010). Gender differences in early literacy: Analysis of Kindergarten through fifth grade dynamic indicators of basic early literacy skills probes. *School Psychology Review*, 39(2), 240-257. https://doi.org/10.1080/02796015.2010.12087776
- Bourke, L., & Adams, A. M. (2012). Is it differences in language skills and working memory that account for girls being better at writing than boys? *Journal of Writing Research*, 3(3), 249-277.
- Brozo, W. G., Sulkunen, S., Shiel, G., Garbe, C., Pandian, A., & Valtin, R. (2014).
 Reading, gender, and engagement: Lessons from five PISA countries. *Journal of Adolescent and Adult Literacy*, 57, 584-593. https://doi.org/10.1002/jaal.291

- Burney, V. H., & Beilke, J. R. (2008). The constraints of poverty on high achievement. *Journal for the Education of the Gifted, 31,* 171-197.
- Carpenter, D. M., Ramirez, A., & Severn, L. (2006). Gap or gaps: Challenging the singular definition of the achievement gap. *Education and Urban Society*, 39(1), 113-127. https://doi.org/10.1177/0013124506291792

Chudowsky, N., & Chudowsky, V. (2010). Are there differences in achievement between boys and girls? Center on Education Policy. https://files.eric.ed.gov/fulltext/ED509023.pdf

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.
- Collins, J. L., Lee, J., Fox, J. D., & Madigan, T. P. (2017). Bringing together reading and writing: An experimental study of writing intensive reading comprehension in low-performing urban elementary schools. *Reading Research Quarterly*, 52(3), 311-332. https://doi.org/10.1002/rrq.175
- Combs, J. P., Slate, J. R., Moore, G. W., Bustamante, R. M., Onwuegbuzie, A. J., & Edmonson, S. L. (2009). Gender differences in college preparedness: A statewide study. *Urban Review*, 42(5), 441-457. https://doi.org/10.1007/s11256-009-0138-x
- English Learner Portal. (2021). *Supporting English Learners in Texas*. https://www.txel.org/specialprograms/?tab=tab2
- Field, A. (2018). Discovering statistics using IBM SPSS Statistics. Sage.
- Flores, S. M., Batalova, J., & Fix, M. (2012). *The educational trajectories of English* Language Learners in Texas.

https://www.migrationpolicy.org/pubs/TexasELLs.pdf

Fránquiz, M. E., & Ortiz, A. A. (2016). Co-editors' introduction: Every Student Succeeds Act-A policy shift. *Bilingual Research Journal*, 39(1), 1-3. https://www.doi.org/10.1080/15235882.2016.1148996

Garrett-Peters, P.T., Monkrova, I., Vernon-Feagans, L., Willoughby, M., Pan, Y., & The Family Life Project Key Investigators. (2016). The role of household chaos in understanding relations between early poverty and children's academic achievement. *Early childhood research quarterly, 37*, 16-25. https://www.doi.org/10.1016/j.ecresq.2016.02.004

- Hamilton, H., Lunenburg, F. C., Slate, J. R., & Barnes, W. (2021) Texas Grade 3 underrepresented boys and economic status differences in reading: A statewide, multiyear study. *Journal of Educational Studies and Multidisciplinary Approaches*, 1(1), 1-36.
- Harris, L. (2018). Differences in the reading performance of Texas Grade 4 students as a function of their economic status, gender, and ethnicity/race: A multiyear, statewide investigation (Publication No. 13819687) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Hernandez, D. J. (2012). Double jeopardy: How third grade reading skills and poverty influence high school graduation. The Annie E. Casey Foundation. https://assets.aecf.org/m/resourcedoc/AECF-DoubleJeopardy-2012-Full.pdf
- Holbrook, H. T. (1988). Sex differences in reading: Nature or nurture. *Journal of Reading*, *31*(6), 574-576.
- Johnson, R. B., & Christensen, L. (2020). Educational research: Quantitative, qualitative, and mixed methods approaches (7th ed.). Sage.

- Koball, H., Moore, A., & Hernandez, J. (2021). Basic facts about low-income children: Children under 9 years, 2019. National Center for Children in Poverty, Bank Street College of Education. https://www.nccp.org/wpcontent/uploads/2021/03/NCCP_FactSheets_Under-9-Years_FINAL.pdf
- Kornrich, S., & Furstenberg, F. (2013). Investing in children: Changes in parental spending on children, 1972-2007. *Demography*, 50, 1-23. https://doi.org/10.1007/s13524-012-0146-4
- Li, C., Kruger, L. J., Beneville, M., Kimble, E., & Krishnan, K. (2018). The unintended consequences of high-stakes testing on English Language Learners: Implications for the practice of school psychology. *School Psychology Forum*, 12(3), 79-90.
- Li, G. (2012). Literacy engagement through online and offline communities outside school: English Language Learners' development as readers and writer. *Theory Into Practice, 51*, 312-318. https://www.doi.org/10.1080/00405841.2012.726061
- Lloyd, D. N. (1978) Prediction of school failure from third-grade data. *Educational and Psychological Measurement, 38*, 1193-1200.
- McGown, J. A. (2016). Differences in reading performance of Texas elementary school students as a function of economic status, gender, and ethnicity/race: A multiyear statewide study (Publication No. 10306227) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Miller, B., & McCardle, P. (2011). Reflections on the need for continued research on writing. *Reading and Writing: An Interdisciplinary Journal*, 24(2), 121-132. http://doi.org/10.1007/s11145-010-9267-6

- Moore, G., Combs, J. P., & Slate, J. R. (2012). Advanced Placement exams participation and performance: A national study of gender differences. *E-international Journal of Educational Research*, *3*(3), 18-32.
- Naour, P. (2001). Brain/behavior relationships, gender differences, and the learning disabled. *Theory Into Practice*, 24(85), 100-105. https://doi.org/10.1080/00405848509543155
- National Center for Education Statistics. (2021). *English Language Learners in public schools*. https://nces.ed.gov/programs/coe/indicator/cgf
- Olszewski-Kubilius, P., & Corwith, S. (2018). Poverty, academic achievement, and giftedness: A literature review. *Gifted Child Quarterly*, 62(1), 37-55. http://doi.org/10.1177/0016986217738015
- Pariseau, M. M. (2019). Differences in reading as a function of the economic status, ethnicity/race, and English Language Learner status of Texas Grade 4 boys and girls in special education: A multiyear statewide investigation (Publication No. 27805273) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Reardon, S. F. (2013). The widening income achievement gap. *Educational Leadership*, 70(8), 10-16.
- Resilla, C. A. (2017). Differences in the college-readiness rates of English Language Learners by gender, economic status, and ethnicity/race: A Texas statewide, multiyear investigation (Publication No. 10756388) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

- Schleeter, G. D. (2017). Differences in the reading achievement of Texas Grade 3 English Language Learners as a function of their economic status, ethnicity/race, and gender: A multiyear statewide study (Publication No. 10756390) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.
- Schleeter, G. D., Slate, J. R., Moore, G. W., & Lunenburg, F.C. (2020). Reading inequalities by the economic status of Texas Grade 3 English Language Learners: A Texas, multiyear analysis. *Journal of Education and Learning*, 14(1). https://doi.org/10.11591/edulearn.v14i1.13893
- Taylor, L., & Clarke, P. (2021). We read, we write: Reconsidering reading-writing relationship in primary school children. *Literacy*, *55*(1), 14-24.
- Texas Education Agency. (2016). STAAR Grade 4 Writing blueprint. https://tea.texas.gov/sites/default/files/Blueprint%20STAAR%20Gr%204%20Wri ting%202016.pdf
- Texas Education Agency. (2017a). STAAR Grade 4 Writing test beginning with the spring 2017 administration.

https://tea.texas.gov/sites/default/files/Grade%204%20Weighting%20Chart.pdf

Texas Education Agency. (2017b). State of Texas Assessments of Academic Readiness (STAAR) performance labels and policy definitions.

https://tea.texas.gov/sites/default/files/STAAR_Performance_Labels_and_Policy_ Definitions.pdf

Texas Education Agency. (2019). Enrollment in Texas public schools 2018-19. https://tea.texas.gov/sites/default/files/enroll 2018-19.pdf

- Texas Education Agency. (2021a). *Appendix F: Ethnicity and race reporting guidance*. https://tb2cdn.schoolwebmasters.com/accnt_24238/site_24239/TEA-Ethnicity-Race-Form-AIA.pdf
- Texas Education Agency. (2021b). Enrollment in Texas public schools 2020-21. https://tea.texas.gov/sites/default/files/enroll-2020-21.pdf

Texas Education Agency. (2021c). Leadership. https://tea.texas.gov/about-tea/leadership

- Texas Education Agency. (2021d). *PEIMS overview*. https://tea.texas.gov/reports-anddata/data-submission/peims/peims-overview
- Texas Education Agency. (2021e). *STAAR redesign*. https://tea.texas.gov/student-assessment/assessment-initiatives/hb-3906/staar-redesign
- Texas Education Agency. (2021f). *STAAR resources*. https://tea.texas.gov/student-assessment/testing/staar/staar-resources

Texas Education Agency Update. (2021). *Elevating equity and achievement for Emergent Bilingual students: Quarterly newsletter.*

https://content.govdelivery.com/accounts/TXTEA/bulletins/2ed0821?reqfrom=sh are#:~:text=Texas%20passed%20Senate%20Bill%202066,of%20the%20guidanc e%20or%20resource

Villalobos, Y. J. (2021). Differences in Algebra I, English I and English II, and U.S. History end-of-course exam grade level performance of Texas high school English Learners by gender: A multiyear statewide investigation [Doctoral dissertation, Sam Houston State University]. Scholarly Works @ SHSU. https://hdl.handle.net/20.500.11875/3221

- Wei, T. Liu, X., & Barnard-Brak, L. (2015). Gender differences in mathematics and reading trajectories among children from kindergarten to eighth grade. *Research in Education*, 93(5), 77-89. http://doi.org/10.7227/RIE.0015
- Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development*, *69*(3), 848-872.

Wright, L. A., & Slate, J. R. (2015). Differences in critical thinking skills for Texas middle school students as a function of economic disadvantage. *Journal of Education Research*, 9(4), 345-356.

APPENDIX



Date: Jul 21, 2022 11:31:00 AM CDT

TO: Alisha Martin John Slate FROM: SHSU IRB PROJECT TITLE: Difference in the Writing Performance of Texas Elementary Students as a Function of their Economic Status, Gender, and Language Status: A Multiyear, Statewide Investigation PROTOCOL #: IRB-2022-161 SUBMISSION TYPE: Initial ACTION: No Human Subjects Research DECISION DATE: July 21, 2022

OPPORTUNITY TO PROVIDE FEEDBACK: To access the survey, click **here**. It only takes 10 minutes of your time and is voluntary. The results will be used internally to make improvements to the IRB application and/or process. Your feedback will be most appreciated.

Greetings,

In accordance with applicable federal law governing the use of human subjects in research the SHSU Institutional Review Board ("IRB") has reviewed your proposed project entitled "Difference in the Writing Performance of Texas Elementary Students as a Function of their Economic Status, Gender, and Language Status: A Multiyear, Statewide Investigation" and determined that this project does not meet the definition of human subjects research as defined in Title 45 Code of Federal Regulations Part 46 et al (also known as the "Common Rule") - specifically, <u>secondary data analysis of a public dataset</u>. Therefore, this project is not subject to further SHSU IRB oversight. Even so, please remember that you are responsible for ensuring that your study is conducted in an ethical manner and in accordance with applicable law and SHSU policies and procedures. You may initiate your project. Please contact the IRB office at <u>irb@shsu.edu</u> or **Common Summer** if you need any additional information.

Sincerely, SHSU Institutional Review Board

VITA

Alisha Martin

EDUCATIONAL HISTORY

Doctorate of Education – Educational Leadership (December, 2022) Sam Houston State University, Huntsville, Texas Dissertation: Differences in the Writing Performance of Texas Elementary School Students as a Function of their Economic Status, Gender, and Language Status: A Multiyear Statewide Investigation

Master of Education in Education Administration, May 2013 Lamar University, Beaumont, Texas

Bachelor of Science in Early Childhood Education, December 2009 *Texas Tech University, Lubbock, Texas*

PROFESSIONAL EXPERIENCE

Principal, Klenk Elementary, Klein ISD, December 2016-present Assistant Principal, Metzler Elementary, Klein ISD, November 2013-December 2016 Teacher, Blackshear Elementary, Klein ISD, May 2011-November 2013 Teacher, Frank Elementary, Klein ISD, August 2010-May 2011

RECOGNITIONS

Principal of National School of Character, May 2022 Klein ISD Education Foundation Lead the Spark Grant Recipient, May 2021 Klein ISD Elementary Principal of the Year, 2019-2020 Holdsworth Campus Leadership Program, June 2018-July 2020 Klein ISD Education Foundation Lead the Spark Grant Recipient, May 2018 Columbia University Teachers College "Readers Institute", June 2018 Harvard University Graduate School of Education "New and Aspiring Leaders Institute", November 2017 Harvard University Graduate School of Education "Family Engagement Institute", July 2017

PRESENTATIONS & PUBLICATIONS

- Martin, A. (2022, June). *District Panel for Strategic Staffing*. Invited presentation for Teacher Vacancy Task Force, online.
- Martin, A., Garcia, M., & Zavala B. (2022, April). *Cultivating Talent Through Partnerships*. Invited presentation for US Prep Learning Tour, The Woodlands, TX.
- Martin, A. (2022, April). *Klenk Campus Visit*. Invited presentation for US Prep Learning Tour, Houston, TX.

- Martin, A. & Turner, K. (2021, June). *Leadership Actions to Promote Collective Efficacy*. Invited presentation for Klein Promise 2 Purpose Retreat, Spring, TX.
- Martin, A. (2021, April). *Forward to the Best Yet.* Invited presentation for Sam Houston State University Bring 'em Back Kats Conference, online.
- Martin, A. (2020, August). *More Than a Number*. Invited presentation for Klein Reimagine Learning Summit, Spring, TX.
- Martin, A. & Huggins, C. (2020, January). *Digging Deeper with Data*. Invited presentation for Klein Admin Collab, Spring, TX.
- Martin, A. (2019, November) *Engaging Families in the Education Experience*. Invited podcast for Kleinversations: Teaching and Learning Podcast for Klein.
- Martin, A. & De Alba, T (2019, October). *Time Management for Efficiencies and Prioritization*. Invited presentation for Klein Assistant Principal Collaborative Retreat, Spring, TX.
- Martin, A. (2019, October) *Lesson Plan Check.* Invited presentation for Klein Elementary Principal PLC, Spring, TX.
- Martin, A. (2019, February) The Power of Moments. Article for Klein Exchange.
- Martin, A. & Gutierez, K. (2019, January). *Klenk Elementary STEM HUB Update*. Invited presentation for Klein Education Foundation, Spring, TX.
- Martin, A. (2019, December) *Strategic Teams*. Invited presentation for Klein Elementary Principal PLC, Spring, TX.
- Martin, A. (2018, November) *Groups and Teams*. Invited presentation for Klein Parent Liaisons, Spring, TX.
- Martin, A. & Funk, J. (2018, October). *What's Your Kodak Moment?* Invited presentation for Klein Administrative Collaborativeb, Spring, TX.
- Martin, A., McGown, J. A., Bailey, J., Alexander, L., & Woods, C. (2018, June). Klein Forest Family of Schools Strategic Priority Update. Invited presentation for Klein Board of Trustees, Spring, TX.
- Martin, A. & Carillo, G. (2017, December) *Rooted in Relationships*. Invited presentation for Statewide Parental Involvement Conference, Houston, TX.
- Martin, A. & Combs, L. (2016, July) *Up for a Challenge?* Invited presentation for Corwin Press International Visible Learning Conference, Washington, DC.