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EXPLORING CONCEPTUAL FACTORS IN BLACK AND HISPANIC PROFICIENT  
STUDENTS IN ENGLISH LANGUAGE ARTS (ELA)

By

CHRISTINA ALDRICH

M.Ed. University of Central Florida, 2017

B.A. University of Central Florida, 2007

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Education  
in the Department of Curriculum and Instruction  
in the College of Community Innovation and Education  
at the University of Central Florida  
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2021

Major Professors: Martha Lue Stewart and Karyn Allee-Herndon

## **ABSTRACT**

This study investigated the Florida Standards Assessment (FSA) English Language Arts (ELA) scores of proficient third-grade students and explored trends in achievement or decline on the FSA in fourth grade. Further, this study explored the relationship of school environment to academic outcomes of Black and Hispanic fourth-grade public school students in terms of FSA ELA scores from third to fourth grade. This study used multiple statistical analyses on pre-existing de-identified data to explore learning gains by race/ethnicity. By focusing on and studying only one school district, this study provides conclusive results connecting learning gains and ethnicity in specific instances, but not in others. Recommendations were made for modification of the study design, future applications of these findings, and continued research in the various stages of academic achievement of the target student populations, in addition to identifying discrete factors or combinations of factors that best support all students' learning gains.

## **ACKNOWLEDGMENTS**

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I could not have completed this dissertation without the support and love from my family and friends. My grandparents never let me give up because I couldn't let them down. My roommate spent all three years of this program and dissertation dealing with my late nights and freak-out moments. In addition, I'd like to thank my coworkers at Hamilton Elementary who allowed me to keep working with our students while completing this milestone.

Each person in my life has encouraged, supported, and made me, and this dissertation, what I am today. I am forever in debt to those who instilled in me this desire to learn and grow to help future educators and future students.

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## CHAPTER 1: INTRODUCTION AND OVERVIEW

### Background

In 1983, under the administration of then President Ronald Reagan's Secretary of Education, Terrel Bell, the National Commission on Excellence in Education was appointed to address the nation's educational system that was, in the observation of many, failing to meet the needs of a competitive workforce. The result, *A Nation at Risk: The Imperative for Education Reform* (1983), is considered a landmark event in the history of educational reform in our nation. The Commission went on to make 38 recommendations, across five major categories: Content; Standards and Expectations; Time; Teaching; and Leadership and Fiscal Support. In 2021, many of those standards are still in effect to support vulnerable students and ensure all children succeed academically.

Through subsequent presidentially appointed commissions, other voices and scholars in education offered critiques and provided data concerning the Commission's progress (Barton & Coley, 2010; Harris & Herrington, 2006; National Commission on Excellence in Education, 1983). In 1998, the Center for Education Reform (CER) and former Education Secretary William J. Bennett updated the national narrative with *A Nation Still at Risk* (1998) and shared these findings: "Only those children whose parents have power end up with an excellent education, far too many disadvantaged and minority students are not being challenged, passed from grade to grade, advanced without even learning to read (p. 3). While *A Nation Still at Risk* does share some evidence of reform successes specifically related to decreasing educational inequity for vulnerable or marginalized students, the "achievement gap" between minority students and White students persists. While the gap continues to decrease (US Department of Education,

2008), minority students still underperform their White peers academically in predictable and persistent ways.

On the 25<sup>th</sup> anniversary of the Commission's initial report, Strong American Schools, a nonprofit educational reform organization, issued *A Stagnant Nation: Why American Students Are Still at Risk* (2008) as a national education report card. They strongly urged policymakers that there was ample research to support commonsense ideas to reform schools and close the achievement gaps (e.g., racial/ethnic, language minority, exceptional education students, socio-economic). What was of the gravest importance and highest priority was political action to support these efforts at scale. Ladson-Billings (2006) takes a different approach to thinking about the achievement gap by claiming that the focus should be on the educational debt that has accrued over time instead of gaps in performance. Just as when a budget deficit builds onto the overall debt, education deficits (i.e., historical, economic, political, and moral components) have added to the overall education debt for minority students in the United States. It is important to connect these achievement gaps to the overall educational debt so that research focuses on supporting students and building upon their assets from a systemic point of view rather than one of individual deficit.

The Center for Educational Policy (2021) is an organization that strives to improve educational equity and social justice by maintaining data on student performance and other benchmarks of systemic issues in education for the purpose of informing policy. They have tracked 9-year old's reading achievement by test score level and race/ethnicity since 1975 and have found that, while the gap between White students and Black and Hispanic peers is still evident, the gap is narrowing. While this is good news, the argument for this dissertation was that there should not be a gap in "achievement" solely because of a students' race or ethnicity.

Discerning why the gaps persist and for whom is a critical next step. One emerging area for examination is to explore the needs of students who meet academic expectations but do not maintain this proficient status in a manner comparable to their White peers.

### Statement of Problem

The problem addressed in this study was the disproportion of proficient learning gains scores of Black and Hispanic students compared to White students in reading. For this dissertation, *proficiency* is defined as receiving a Level 3 or higher on the Florida Standardized Assessment (FSA). For this study, *learning gains* refers to an improvement in scale scores or an increase in achievement levels from one year to the next as measured by the FSA. The National Assessment of Educational Progress (NAEP Reading: Achievement Gaps, 2020) reading achievement results from 2007 reveal an achievement gap between Black and Hispanic students compared to White peers, as shown in Figure 1 below (NAEP Reading: Achievement Gaps, 2020).

#### Status and Trends in the Education of Racial and Ethnic Groups

**Figure 11.1a. Percentage distribution of 4th-grade students at National Assessment of Educational Progress (NAEP) reading achievement levels, by race/ethnicity: 2007**

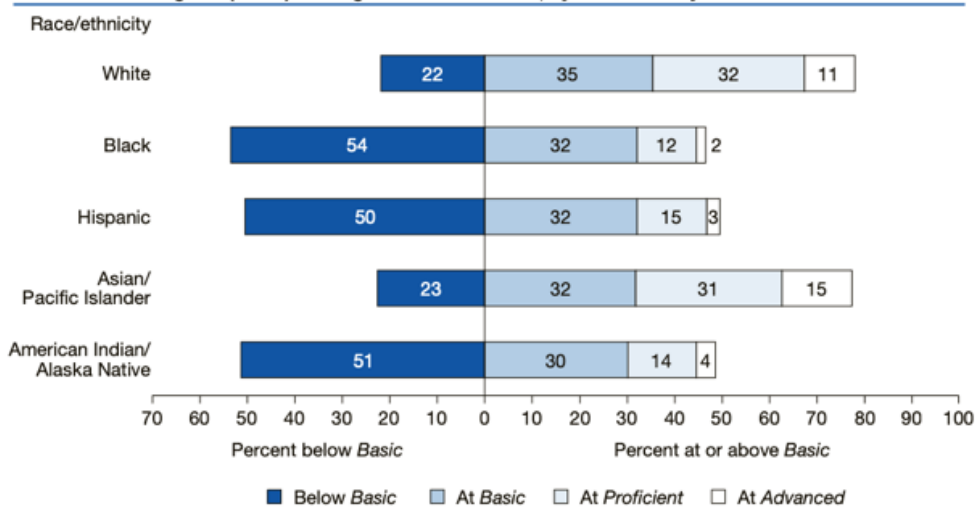


Figure 1 Status Trends

The data shows 29 percent more White students are proficient and advanced than Black students, and 25 percent more White students are proficient and advanced than Hispanic students. The statistics have not changed much over the last fourteen years shown in Figure 2 below (*NAEP Reading: National Achievement-Level Results, 2019*).

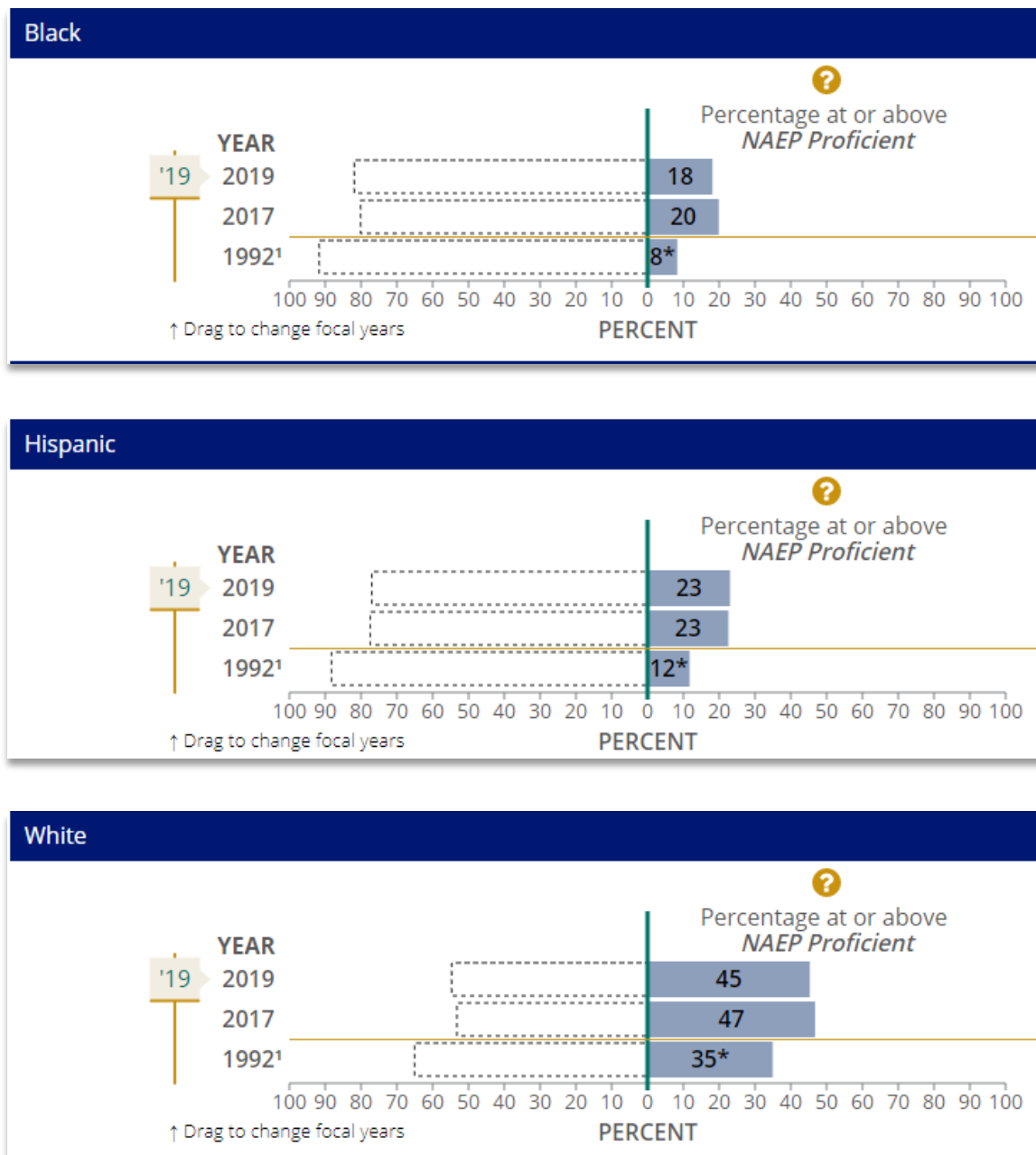


Figure 2 NAEP Percentages

These differences in proportions in proficient and advanced students may lead to a lack of learning gains for proficient Black and Hispanic students in English Language Arts on the Florida Standards Assessment from grades three to four. To make a learning gain, students have to increase their knowledge and show growth from third to fourth grade. The research focus was to determine why Black and Hispanic students are not making learning gains on the FSA English Language Arts like their White peers.

Since 2015, the FSA has measured student success by assessing students in English Language Arts (ELA; grades 3-10), Mathematics (grades 3-8), and End-of-Course (EOC) assessments for Algebra 1 and Geometry (Florida Department of Education, 2020). The FSA reports student achievement from Level 1 to Level 5; Level 3 and above scores are considered proficient. The state defines learning gains as increases in reading assessment points on FSA from one grade to the next, for example, third to fourth grade. The Florida Standards Assessment results factor into a school's grade report (Florida Department of Education, 2018). School accountability and school grades provide an easily understandable way to measure and compare the performance of schools (Florida School Ability Reports, 2021). Parents and the general public can use school grades as an available indicator, to understand how well each school serves its students compared to other schools. Schools are graded A, B, C, D, or F (Florida Department of Education, 2018). One component of a school's grade comes from the students' learning gains on the FSA. Proficient students learning gains or lack thereof can impact a school's calculations and influence various stakeholders. Focusing on proficient students will improve student outcomes, school grades, and the public perception of the school system. Therefore, additional research and attention on proficient students' learning gains are needed.

The Assessment and Accountability Department of this large school district located in the Southeastern United States, identified a trend in the race/ethnicity-based achievement gap showing disparity with FSA scores from 2018-2019 across elementary, middle, and high schools. In elementary schools across the district, Black and Hispanic FSA Level 3 (proficient) students have not made commensurate ELA learning gains compared to their White peers. Fifteen per cent more White students made learning gains on FSA ELA scores between third and fourth grade than Black students. Eight percent more White students made learning gains compared to their Hispanic peers. These data suggest that across elementary schools in the district, Black and Hispanic students are not making learning gains on the fourth grade ELA FSA test compared to the percentage of White students.

The county purports to prioritize student excellence and equity in the district. According to the district's website:

All schools will perform at the highest competitive levels on state, national and international assessments. All students will be provided with high-quality, engaging, rigorous instruction that fosters creativity and innovation. There is a commitment to closing the achievement gap and a consistency in expectations for all student sub-groups. (GCPS, 2020)

While this is a declared priority for this district, recent data from the Assessment and Accountability Department shows a disproportion between some student subgroups, particularly Black and Hispanic students (Assessment and Accountability, 2020). The district's trend data mirrors national datasets (*NAEP Reading: National Achievement-Level Results*, 2019). In research and scholarly discussions, underachieving Black and Hispanic students remain a focus (Jeynes, 2014). The disproportionality of underachieving Black and Hispanic students compared

to White peers in the district is evident. District-wide, prioritized closing the achievement gap, bringing the data to the forefront, and implementing interventions across all grade levels. The district uses a multi-tiered system of support (MTSS) to monitor and support those underachieving students (University of South Florida, 2021). It is now evident the district also needs to spend time researching and discussing the race/ethnicity gap among proficient students so that they may also establish responsive interventions.

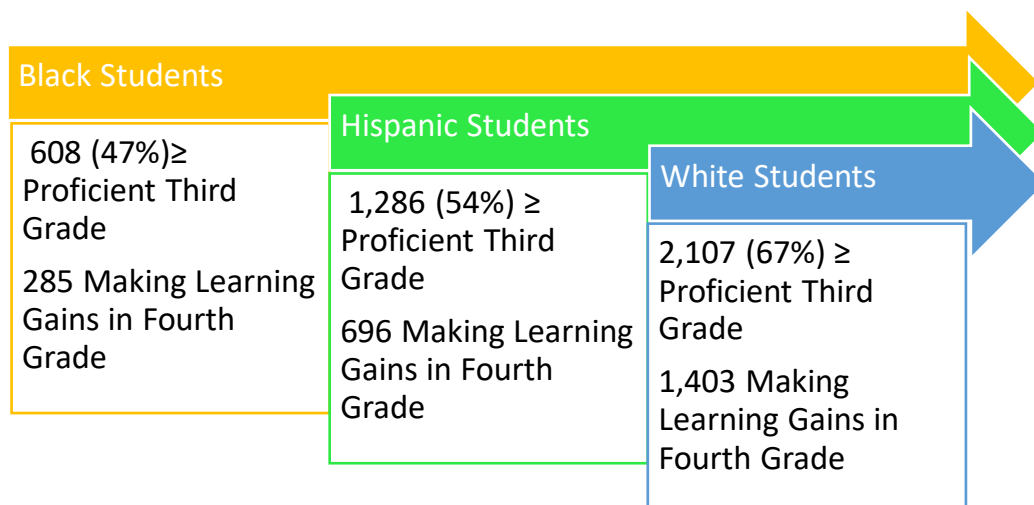
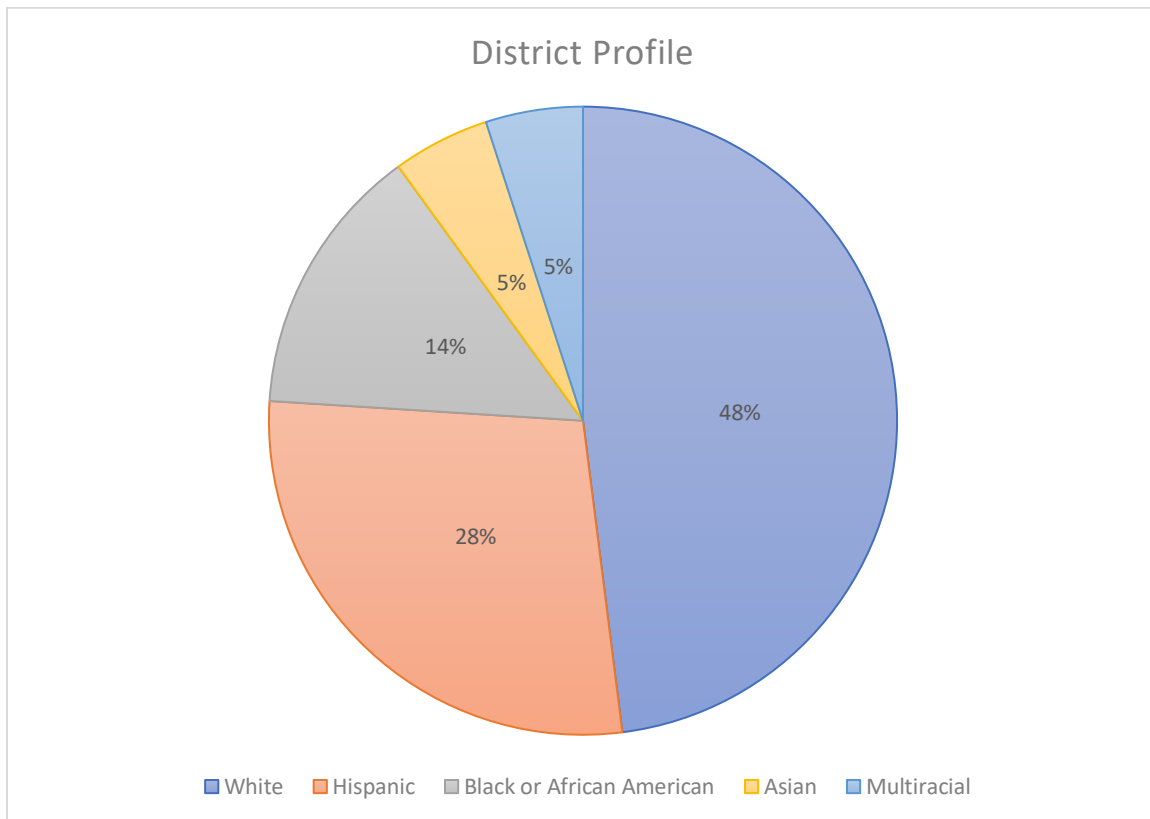


Figure 3 District Schools Data

### Organizational Context

The district was rated an “A” district by the Department of Education for the 2018 Academic Year. Schools were not awarded grades during the 2019-2020 school year due to COVID. It has been rated an “A” district for 18 of the 19-year history of the School Accountability Program. The Florida Department of Education ranks districts based on set criteria under the Florida School Accountability Act (Florida Department of Education, 2018).

The district has a diverse population and is the 12<sup>th</sup> largest school district in the state and serves more than 68,000 students. Figure 4 shows the demographics in the entire district, including all schools and grade levels (Grace County Public Schools, 2020). These data are from the current school year, 2020- 2021, and are updated yearly on their website.



*Figure 4 District Schools Demographics*



Grace County Public Schools (GCPS; a pseudonym) has 40 elementary schools; 14 of the 40 elementary schools are eligible to receive Title I funding. In addition, schools with at least 50 percent of enrolled students who qualify for free or reduced-price lunch receive funding under Title 1, Part A: Improving the Academic Achievement of the Disadvantage (Florida Department of Education, 2020).

The mission of the district is to ensure all students acquire the knowledge, skills, and attitudes to be productive citizens (GCPS, 2020). As a current teacher in the district, the researcher's role within the context influenced the positionality on the subject. The researcher taught in the district at the same Title 1 school for the past 14 years and earned tenure during this time. He/she was awarded Teacher of the Year and appointed team leader of the second and third-grade teams during the career. Recently the researcher was hired as the school's reading interventionist and will serve tier-three students using the MTSS tracking system.

In addition to the role in the county, background also influences the researcher's positionality. She is a White, middle-class woman from a small town. The researcher earned a master's degree in Educational Leadership and is currently working on a doctorate in Curriculum and Instruction. As a reflective researcher, it important to know positionalities and understand the influences on research. Due to educational experiences of teaching in a predominately Black and Hispanic school, a bias may exist while looking at Black and Hispanic students' learning gains compared to White students. In addition, the researcher had limited classroom teaching experience as a second and third-grade teacher and only administered the FSA to third grade. Therefore, the researcher could make assumptions that influence data collection because of the experience teaching Black, Hispanic, and White students.

Information was limited to data provided through the district. Therefore, the study used statistical methods to minimize threats to the analysis. Chapter 5 provides additional limitations. To offset these possible influences, the researcher used data only containing school names and race/ethnicity and worked with the Computing and Statical Technology Laboratory in Education (CASTLE) at the university to interpret the results from the statistical analysis. For example, the researcher worked with a statistician to ensure data analysis procedures were careful to avoid selection bias. In addition, we used multiple statistical tests to answer the questions from various perspectives to further ensure as much objectivity as possible.

### Significance of Study

While the racial/ethnic achievement gap is narrowing for students in general, research appears to suggest that it has not been eliminated (i.e., Jeynes, 2014; Williams, 2011), and any research that investigates these gaps in student performance should help provide new information on the topic (Plucker et al., 2010). For example, students who score at a proficient level on a state assessment one year may not maintain this status in subsequent years, and the outcomes are differential by student race/ethnicity. Focusing exclusively on underperforming students leaves these students out of the conversation and maintains their status as underserved students. Investigating proficient Black and Hispanic students' performance (i.e., learning gains, maintenance, or losses) from one grade to the next has far-reaching implications, not simply for the school district at the heart of this dissertation, but also for the broader educational community. Research in the field of achievement gaps by race/ethnicity is rich, but little can be found on proficiency gaps between Black and Hispanic students and their White peers. This study is beneficial for GCPS, not only because district administrators requested it, but also because the findings from this study will add to a broader knowledge base around a national

issue. This study hopes to give GCPS specific findings that will help make better sense of what is causing the race/ethnicity-based proficiency gaps to create systemic change that better facilitates learning gains for Black and Hispanic students.

### Purpose of this Study

The purposes of this quantitative dissertation in practice were two-fold. First, to compare FSA ELA scores of Black and Hispanic students from third grade to fourth grade at the school level in an effort to explore trends in achievement and learning gains or decline by racial/ethnic subgroups of students. The second goal was to investigate if a school's environment might impact Black and Hispanic fourth-grade public school students' FSA ELA scores and learning gains or decline from third to fourth grade. These goals informed the research questions that helped frame this study.

### Research Questions

1. To what extent is there a relationship between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increased or decreased reading learning from third to fourth grade as measured by the FSA?
2. To what extent is there a difference, if there is any, between Black, Hispanic, and White learning gains (i.e., increases in reading assessment points on FSA from third to fourth grade) by school?

The hypotheses, both null and alternative, that a student's ethnicity may influence learning gains from third to fourth grade were developed from prior research and experience teaching in an elementary school. In addition, schools play a significant role as a moderator for learning gains.

### Definition of Terms

The glossary provided is intended to assist the reader in understanding the concepts in this paper. These terms have been defined previously in current literature.

1. *Achievement gap* – the achievement gap occurs when one group of students outperforms another group, and the difference in average scores for the two groups is statistically significant (Glossary of Education Reform, 2013).
2. *Excellence gap* – differences in subgroups for students performing at higher levels (Plucker et al., 2010).
3. *Opportunity gap* – refers to how race, ethnicity, socioeconomic status, English proficiency, community wealth, familial situations, or other factors contribute to or perpetuate lower educational aspirations, achievement, and attainment for certain groups of students (Glossary of Education Reform, 2013).
4. *Proficiency* – students demonstrating or failing to demonstrate proficiency in relation to learning standards (Glossary of Educational Reform, 2013).
5. *Minoritized* – Minoritized groups in any society are defined as “minorities” by a dominant group numerically larger than an ethnic group, creating a power struggle between dominant and minoritized groups. Such minoritized groups find the term “minority” as objectionable as such a label suggests they are somehow subordinate to the larger dominant group (IGI Global, 2020).

## **CHAPTER 2: REVIEW OF RESEARCH**

### **Introduction**

In Florida, all core curriculum educators, in third and fourth grade, within all public schools administer the Florida Standards Assessments (FSA). The FSA measures student success, as defined by mastery of the standards for specific subjects, including English Language Arts (Florida Department of Education, 2020). For this dissertation in practice, the data focuses on the minoritized proficient students (i.e., Black and Hispanic students who have earned a Level 3 or higher score out of 5 on the third grade FSA ELA assessment). The district's 2017-2018 data shows that 67% of fourth-grade White students made learning gains (e.g., third grade FSA ELA score was Level 3 and the fourth-grade score was Level 4), while fewer Black (47%) and Hispanic (54%) students do. This literature review focuses on analyzing the current research to determine the root causes of minoritized students remaining stagnant in their achievement on the FSA ELA. At the same time, their White peers make learning gains.

Throughout the last twenty-five years of United States history, the achievement gap has been researched and discussed among educators; however, the achievement gap has not decreased (U.S. Department of Education, 2008). After No Child Left Behind (No Child Left Behind- ED.Gov, 2001), previous researchers focused on understanding and reducing the persistent and predictable achievement gap between Black and Hispanic students and their White peers. Additionally, the underachievement gap continues to garner researchers' attention. (i.e., Jeynes, 2014; Williams, 2011). However, far less research has focused specifically on understanding the achievement gap between Black and Hispanic proficient students and their White peers (i.e., Olszewski-Kubilus, 2006; Osborn, 2014; Plucker & Peters, 2016).

In this chapter, the researcher will review race/ethnicity-based gaps in education that have led to discrepancies in academic achievement and learner growth. The review begins with the achievement gap between Black, Hispanic and White students, followed by a review of the research on the excellence gap for proficient students (Plucker et al., 2010). Next, gaps in reading achievement are examined, concluding with an analysis of the literature on the opportunity gap.

The researcher searched ERIC using the following search criteria: underachieving, minority, achievement. There were 1,173 for peer-reviewed journal articles addressing underachieving Black and Hispanic students. The systematic literature review revealed examinations of underachieving Black and Hispanic students (Condron et al., 2013; Lee, 2002); however, few studies have looked at the differences between proficient Black and Hispanic students and their proficient White peers. As such, this literature review provides additional insight into race/ethnicity as a factor in the achievement gap of proficient students, also known as the “excellence” gap. Excellence gaps are differences in subgroups for students performing at higher levels (Plucker et al., 2010).

Most studies have focused on underachieving students’ gaps, but this study and related literature review focus on the proficient Black and Hispanic student’s achievement gaps in all subjects, emphasizing ELA. This literature review also explores other gaps associated with minoritized students. For example, the Glossary of Education Reform (2013) states the opportunity gap “refers to how race, ethnicity, socioeconomic status, English proficiency, community wealth, familial situations, or other factors contribute to or perpetuate lower educational aspirations, achievement, and attainment for certain groups of students.”

This researcher conducted a Boolean search in ERIC using the search terms: *achievement gap* and *minority students* and *reading*. This search yielded 209 peer-reviewed articles. Of these, the researcher removed 172 articles that did not fall into the constraints of a minority achievement gap in reading, leaving 37 articles to review. In addition, a Google Scholar search of the following terms: achievement gap, proficient students, underserved populations, elementary school, FSA, standardized testing, high achievement, reading proficiency, excellence gap, minoritized students, and opportunity gap yielded additional sources. These sources include three primary handbook references and previous systematic literature reviews. In addition, the researcher included 63 new peer-reviewed articles for review in this chapter.

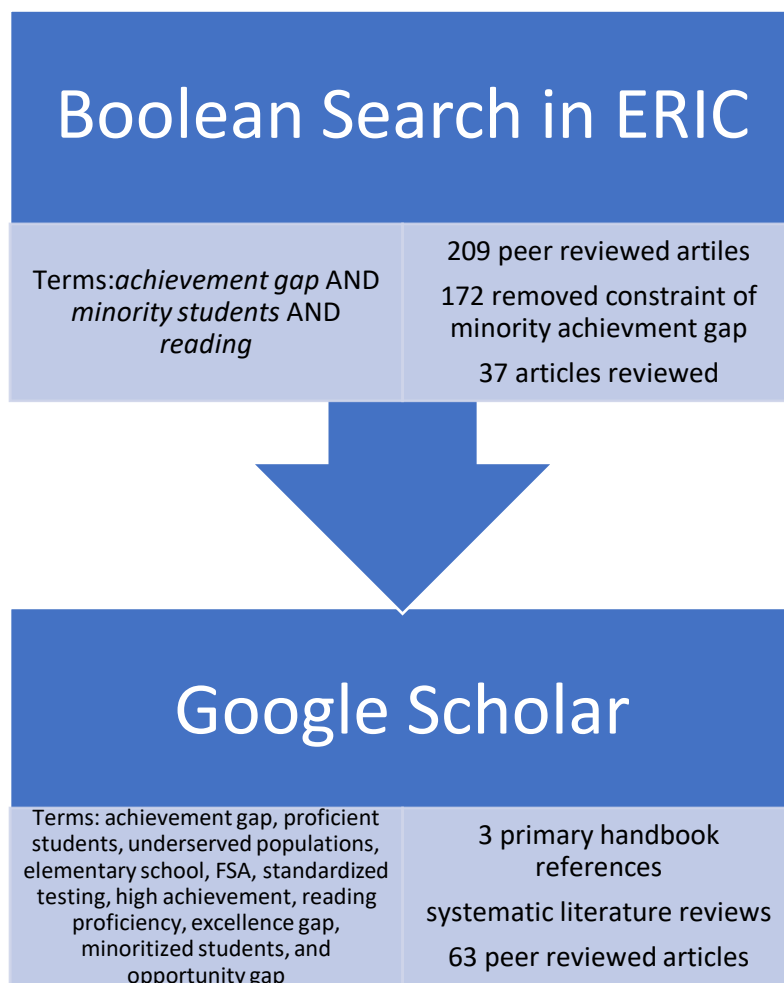


Figure 5 Literature Search Review

### Gaps Associated With Minority Students

The National Center for Educational Statistics (2013) states, “the achievement gap occurs when one group of students outperforms another group, and the difference in average scores for the two groups is statistically significant” (p. 210). In addition, the National Assessment of Educational Progress (2015) examined data to find patterns in the gaps and identify factors that contribute to the gaps. This literature focuses on the differences between students by race/ethnicity. For the purposes of this study, the research highlights the comparison of Black and Hispanic student performance to their White peers.

### Achievement Gap Out-of-School Factors

While schools are not the sole cause or factor in the amelioration of the achievement gap, they can be a positive component to support children and often offer programs to increase instructional quality (Gorey, 2010). Many social and economic factors contribute to the “achievement gap” before children enter school. These factors include access to health care, neighborhood factors such as street violence, parental participation in their child’s formal education, and parental education levels (Card & Rothstein, 2008; Goosby & Cheadle, 2009; Rothstein & Wilder 2005). For example, Goosby and Cheadle (2009) conducted an analysis using data from the National Longitudinal Survey of Youth Child Sample. They found a correlation between low birth weight and lower reading scores, specifically at age five. In addition, Card & Rothstein (2008) used microdata samples from the Scholarship Aptitude Test and found extensive evidence that segregated cities had a more significant Black-White proficiency gap on the test. If out-of-school factors have a role in the achievement gap, as the research suggests, educators must reassess how to address the gap.

Schools cannot rectify all social and economic factors contributing to the achievement gap. Out-of-school factors such as pregnancy, child healthcare, and lack of financial security



often lead to an achievement gap (Rothstein & Wilder, 2005). Despite this, the obligation to strive for the success of all students compels educators. Evans (2005) suggests a need to reframe the achievement gap to examine what schools can successfully do to help close the gap. One way to do that is to experiment with approaches that maximize academic progress for Black and Hispanic students.

### Achievement Gap In-School-Factors

There are also contributing school-based factors to the disproportion of academic learning gains for Black and Hispanic students (Rojas-LeBouef & Slate, 2011). There is a great deal of evidence suggesting these factors include racial stereotyping, teacher qualifications, and test bias (Boyd et al., 2008; Boykin & Noguera, 2011; Darling-Hammond, 2015; Milner, 2012; Pitre, 2014; Singham, 2003; Ford et al., 2008). Highly qualified teachers can positively impact the achievement gap; teachers' instructional choices and behaviors in a classroom impact student success (Boyd et al., 2008). Teachers with less experience cannot always instruct at a level that meets the needs of all the students (Singham, 2003), and their own implicit bias and prejudice can influence how they teach (Boykin & Noguera, 2011). Reduced access to quality education also directly affects racial/ethnic disparities in student performance (Pitre, 2014). Another factor to unequal schooling is unequal access to highly qualified teachers (Darling-Hammond, 2015). Many gifted Black students face negative peer pressure; they can feel like being smart is not always positive (Ford et al., 2008).

### Reading Achievement Gap

One of the factors contributing to the reading achievement gap is a lack of curriculum provided for kindergarten through third grade reading instruction (Teale et al., 2018). Primary reading standards include phonemic awareness, phonics, vocabulary, fluency and comprehension

(Standards & Instructional Support, 2021). However, in most research reviewed by Teale et al., 2018 currently the standards focus on phonics and word recognition in the primary grades, but this is only part of what children need to learn. This challenges instructors to look at the curriculum in the primary grades to create a more sustained instruction with a focus on comprehension, knowledge and writing that supports lifelong reading achievement (Teale et al., 2018). A solution to the reading achievement gap includes reading books during summer vacation. Researchers have found that continuing to read over long breaks improves both reading proficiency in the Fall and reading proficiency overall (Kim & Guryan, 2010). If these reading structures are in place, what are we still not understanding? This leads to the excellence and opportunity gap.

#### Excellence Gap

Researchers have started to focus on the excellence gap – the differences in subgroups for students performing at higher levels (Plucker et al., 2010). While substantial amounts of achievement gap research exist regarding students struggling academically, there is an emerging argument that gaps are also present for academically talented students (Plucker & Peters, 2016). Leading research suggests conversations about the disparities among high achieving students need to start happening because the excellence gap can be addressed simultaneously with the underachieving gap and should be a state and national priority for educational reform (Plucker et al., 2010).

#### Opportunities Gap

While the previous research focuses on race/ethnicity-based achievement gaps, there is also evidence that schools provide fewer chances for advanced opportunities for minoritized students (Olszewski-Kubilus, 2006; Osborn, 2014). Factors such as teachers' low expectations,

prejudices, and discrimination against minoritized students are enhanced when these same students have less access to highly effective, qualified teachers or advanced placement courses (McClellan et al., 2018). Schools can be a place where the opportunities provided to students can widen or decrease (The Saguaro Seminar, 2016). The school system must start creating opportunities for all students to learn, including minoritized students (Boykin & Noguera, 2011).

### Achievement Gap Frameworks and Solutions

While many in-school (and external) factors contribute to the gaps in student achievement, researchers are also investigating ways that schools can close these gaps. Culturally responsive teaching, a pedagogical philosophy, promotes understanding culture and its influences on educational settings (Ladson-Billings, 1995). Researchers posit that classrooms need to be culturally responsive to close the persistent and predictable achievement gaps of minoritized students (Cardno, 2012; Delpit, 2012). Ginsberg & Wlodkowski (1995) share a culturally responsive framework aligned to four conditions – inclusion, attitude, meaning, and competence – to help develop intrinsic motivation while also being sensitive to cultural differences. The teacher builds a classroom environment where everyone feels respected, learning is a personal choice, experiences have value, and learning is valued (Ginsberg & Wlodkowski, 1995). Similarly, Griner & Stewart (2012) provide teacher training and tools for a culturally responsive classroom.

Another evolving framework with the potential to close the achievement gap in public schools uses a gardening metaphor (AGM), where parts of the garden relate to aspects of education (Taylor et al., 2018). The soil is the students, the seeds are the curriculum and pedagogy, the roots are the culture, the environment is the school context, the gardener is the teacher, and the gardener support is training and administration. The AGM brings attention to

specific systemic aspects in school and focuses on each of the structures. Piloting their AGM program at an elementary school for two years resulted in measured growth in student-teacher relationships. Community and family involvement was also critical for success.

While research has shifted towards focusing on the opportunity gap, the solutions to close the gap have also shifted focus. Educators must understand achievement can look different and use the students' life lessons learned and student experiences from schools with high achieving minoritized students (Pitre, 2014). Focusing on student's experiences and their realities can help high-achieving students continue to be successful in education. This focus also allows educators to connect with the students and build relationships that promote success. High achieving minority schools have these things in common: "meaningful learning experiences, academic rigor, cultural connections, and profound belief in students' capabilities" (Pitre, 2014, p.214).

Teachers can create opportunities for all students. Milner (2012) has established an opportunity gap exploratory framework that looks beyond test scores and can be used to explain and deepen understanding of educational practices. The framework focuses on six factors: color blindness, cultural conflicts, meritocracy, deficit mindsets, low expectations, and context-neutral mindsets and practices. As used as a tool, the framework constructs analyze the "positive and negative realities of people, places, and policies in educational practice" (Milner, 2012, p. 699).

Another solution that researchers look at for closing the gap is *detracking*. Detracking is an idea that suggests as students get involved in a more rigorous curriculum, a higher achievement will follow (Burris & Welner, 2005). One way to close the achievement gap is to encourage students to take an enriched curriculum (Burris & Welner, 2005). To increase minority representation in gifted programs, a change in qualifying factors that support different cultural characteristics can improve the reliability and validity of tests for culturally diverse

students, which would increase access and, therefore, increase achievement (Olszewski-Kubilus, 2006).

### Summary

The existing research suggests many causes to the race/ethnicity-based academic achievement gap (e.g., Card & Rothstein, 2007; Cardno, 2012; Goosby & Cheadle, 2009; Ladson-Billings, 1995). These factors include both in-school and out-of-school factors (e.g., access to healthcare, and teacher qualifications), access to opportunity (e.g., highly effective teachers, advanced coursework), and a lack of focus on minority students, specifically how to better support proficient and high-achieving minority students. While there is no quick fix to close the achievement gap, researchers have developed frameworks to help support educators as they focus on helping minority students continue their achievement.

## CHAPTER 3: METHOD/RESEARCH DESIGN

### Introduction

This chapter describes the methodology used to explore the research questions in this study, (1) to compare scores of the Florida Standards Assessments (FSA) of Black and Hispanic students' English Language Arts (ELA) from third grade to fourth grade at the school level to explore trends in learning gains or decline, and (2) to explore if school environment might impact the academic achievement of Black and Hispanic students in these outcomes. The study used de-identified data from the Florida Standards Assessment in the 2017-2018 and 2018-2019 school years in the identified district. Both scale scores and learning gains, as determined by the district, were used as measures of student achievement. This chapter includes six sections: research questions, sample and site, instrumentation, research design, procedures, data collection, and data analysis.

### Research Questions

The research questions for this study were:

1. To what extent is there a relationship between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increased or decreased reading learning from third to fourth grade as measured by the FSA?
2. To what extent is there a difference, if any, between Black, Hispanic, and White learning gains (i.e., increases in reading assessment points on FSA from third to fourth grade) by school?

Based on prior research and experience teaching in an elementary school, the researcher hypothesized that race/ethnicity of a student *does* influence their learning gains from third to fourth grade. In addition, the hypothesis is that schools are a moderator for learning gains.

### Sample and Site

Grace Public Schools has 40 elementary schools in the district, three of which are charter schools under GCPS and receive district funding allocations. The research data included all public and charter schools in the district. Among the 40 elementary schools, 2,788 third-graders in 2017-2018 took the FSA, maintained enrollment in the same school, and took the FSA for fourth grade in 2018-2019. The race/ethnicity categories included in the data provided by the district are Black, White, and Hispanic. The researcher received IRB approval from the university and the school district (Appendix A, B, and C).

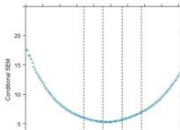
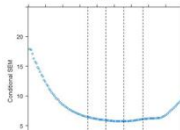
### Instrumentation

The third and fourth grade FSA tests measure both reading and math achievement. For this dissertation, the 2017-2018 and 2018-2019 FSA were used to measure third grade and fourth grade reading achievement to investigate learning gains, stagnation, or decline. The FSA ELA (reading) exam assesses students in grade three and four on their ability to read and understand Key Ideas and Details, Craft Structure, Integration of Knowledge and Ideas, and Language and Editing. In fourth grade Text Based Writing is added to the FSA ELA portion. Field tests and operational testing along with statistical tests are completed for test items to be reviewed for reliability and validity (Florida Department of Education, 2018).

The Florida Department of Education (FLDOE) determines the levels of measurement for student's success on the FSA ELA exam which includes mixed item types such as multiple choice, table matching, evidence-based selected response, and short- and extended-response (FLDOE, 2018). FSA ELA assessments go through an independent alignment studies (see Table 1) to verify the items were aligned to the Language Arts Florida Standards (LAFS). Overall, the test undergoes quality assurance tests for content validity (the degree to which the test measures what it is supposed to), test difficulty, test reliability (the degree to which the test consistently

measures what it should), and test fit to the Item Response Theory (IRT) model (Florida Department of Education, 2018). All coefficients,  $.83 \leq \alpha \leq .91$ , can be considered very good to excellent (Hair et al., 2003).

*Table 1 Evidence of English Language Arts Florida Standards Assessment Reliability and Validity*

	2017-2018 Third Grade FSA ELA (FLDOE, 2017; 2017- 2018 Florida Standards Assessments English Language Arts and Mathematics Fact Sheet, 2017)	2018-2019 Fourth Grade FSA ELA (FLDOE, 2018; 2018- 2019 Florida Standards Assessments English Language Arts and Mathematics Fact Sheet, 2018)
<b>Achievement Levels &amp; Scale Scores</b>		
1. Inadequate	1. 240-284	1. 240-284
2. Below Satisfactory	2. 285-299	2. 285-299
3. Satisfactory*	3. 300-314	3. 300-314
4. Proficient*	4. 325-329	4. 315-329
5. Mastery*	5. 330-360	5. 330-360
<b>Test Details</b>		
- Sessions	- Two 80-minute sessions	- Two 80-minute sessions
- Number of Items	- 53 items	- 53 items
- Multiple Choice	- 28	- 30
- Multiple Select	- 3	- 4
- Edit Task with Choice	- 11	- 7
- Hot Text	- 4	- 4
- Evidence-Based Selected Response	- 4	- 4
- Form	- Paper	- Paper
<b>Reliability Coefficients to Measure Internal Consistency</b>		
- Cronbach <i>Alpha</i>	- $\alpha = .91$	- $\alpha = .89$
- Stratified <i>Alpha</i>	- $\alpha = .91$	- $\alpha = .89$
- Feldt-Raju	- $\alpha = .89$	- $\alpha = .86$
Marginal Reliability	- $\alpha = .90$	- $\alpha = .89$
<b>Coefficients to Measure Overall Test Reliability for Item Response Theory (IRT)</b>		
<b>Test Information Function (TIF) Curves and Standard Error of Measurement (SEM)</b>		
		



#### Validity Coefficients to Measure Inter-Rater Reliability

- Purpose, Focus, & Organization	Not available	- $\alpha = .87$
- Evidence & Elaboration	Not available	- $\alpha = .85$
- Conventions	Not available	- $\alpha = .83$

*Note.* FLDOE = Florida Department of Education. ELA = English language arts.

#### Research Design

The research questions guided the quantitative design components (Cotten et al., 1999). The quantitative focus is to determine the relationship between a student's ethnicity deemed ELA proficient in third grade and their subsequent increase or decrease of reading learning from third to fourth grade as measured by the FSA. In addition, this study focuses on identifying schools that have no statistically significant difference between the percentage of Black, Hispanic and White students making learning gains from third to fourth grade as determined by the FSA ELA exam.

A relational statistical analysis will aid in answering the research questions. For this research, relational statistics tested the strength of the relationship between the students' race/ethnicity and learning gains from third to fourth grade. Data from both the 2017-2018 third grade and 2018-2019 fourth grade ELA FSA tests will be analyzed, controlling for race/ethnicity to determine learning gains from third to fourth grade.

For the first research question, the independent variable was race/ethnicity. The dependent variable was the learning gain, described in two ways, as a positive change in ELA scale scores and then subsequently as a categorical Level increase from third to fourth grade. For the second research question, the school functions as another independent variable. Table 2 below shows the questions with relatable independent and dependent variables.

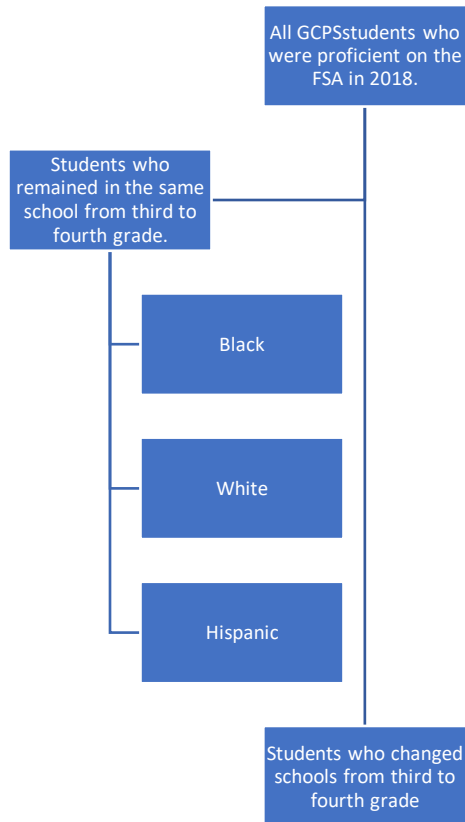
Table 2, Summary of the Study Design and Analysis

Research Question	<i>n</i>	Independent Variables	Dependent Variables	Statistical Tests
1. To what extent is there a relationship between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increased or decreased reading learning from third to fourth grade as measured by the FSA?	2,788	Race/Ethnicity	Learning gain- change from third to fourth grade	Kruskal-Wallis Sign Test Chi-Square Goodness-of-fit
2. To what extent is there a difference, if any, between Black, Hispanic, and White learning gains (i.e., increases in reading assessment points on FSA from third to fourth grade) by school?	40	Race/Ethnicity School	Learning gain- change from third to fourth grade	Loglinear Chi-Square Goodness-of-fit

### Procedure and Data Collection

#### Sample and Recruitment

The inclusion criteria for the data analysis set by the researcher included any student determined to be proficient (i.e., Level 3, 4, or 5) on FSA ELA testing in third grade in 2017-2018 who also took the FSA in fourth grade at the same school in 2018-2019. For this research, the race/ethnicity data received from the district used the classifications Black, White and Hispanic, and included only those three categories in the analysis.



*Figure 6 Participant Inclusion Criteria*

## Participants

Before collecting data, the researcher completed the IRB process for both the university and the school district. The researcher received nonhuman subject's IRB approval through the affiliated university (Appendix A and B). In addition, the district also approved the study (Appendix C).

The data included in this study were from the students who took the FSA in the 2017-2018 school year as a third-grader and in 2018-2019 as a fourth-grader while still enrolled at the same school. The Department of Assessment and Accountability provided the de-identified data. All data provided by the district was de-identified and maintained in a password-protected laptop.

The participation and sample used were limited due to the impacts of the COVID-19 pandemic and resulting social distancing measures. The researcher had to utilize the 2017-2018 and 2018-2019 FSA data because no FSA data were collected in 2019-2020 to reduce the likelihood that test scores would be invalid due to the circumstances of the sudden shift to distance learning protocols. There are no contingencies needed since these data are secondary data.

### Data analysis

To be accepted as trustworthy, data analysis should be precise, consistent, and exhaustive (Nowell et al., 2017). Below are the details of the data recording, synthesis, and analysis in the organized research question.

#### Research Question 1

To what extent is there a relationship between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increased or decreased reading learning from third to fourth grade as measured by the FSA?

*Table 3, Research Question 1 Hypothesis*

Null Hypothesis	Alternative Hypothesis
H <sub>0</sub> : There is no difference between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increase or decrease in learning gains.	H <sub>1</sub> : There is a difference between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increase or decrease in learning gains.

To answer Research Question 1, the pre-existing data were analyzed using four different measures: the Kruskal-Wallis test (Pallant, 2020), pairwise test (Dunn, 1964), the sign test (Salkind, 2010), and the chi-square goodness-of-fit test (Pearson, 1970).

The utilization of a Kruskal-Wallis test analyzed whether learning gains were different based on the race/ethnicity of the student or if race/ethnicity affects learning gains. The Kruskal-Wallis test is a rank-based, non-parametric test that looks to see statistically significant

differences between three or more groups on a dependent variable (Pallant, 2020). The researcher wanted to determine if there were mean differences in learning gains from third to fourth grade by race/ethnicity. Four assumptions must be met when using the Kruskal-Wallis (Glen, 2020). The dependent variable must be ordinal and the independent variable categorical. Each group should be independent of itself, meaning no one is in both groups, and the distributions should have the same distribution shape. The data met these assumptions, and the researcher used the Kruskal-Wallis for the first research question. A  $p$  value of  $< .05$  was considered statistically significant. Subsequently, the researcher completed pairwise tests using Dunn's (1964) procedure for each of the race/ethnicity groups to determine if there were differences between the subgroups and the rate of learning gains. Based on the results (see Chapter 4), the researcher concluded a relationship between race/ethnicity and learning gains exists.

The researcher conducted two more tests to determine the extent of the relationship between race/ethnicity and learning gains. The first test, the sign test, defined a learning gain as the increase, maintenance, or decrease of FSA Level Scores (i.e., 1-5). The second test, the chi-square goodness of fit, used the GCPS definition of learning gains articulated by the state of Florida and includes scale scores. The factors allow a student to receive a learning gain in the following year by increasing the scale score, even if they remain the same level category.

The researcher used the sign test to measure third-grade proficient students' increase, decrease, or stagnation of fourth-grade reading score growth on the FSA by race/ethnicity. The sign test is a test of simple main effects, and the researcher used the test to answer *how* the students are changing by each group. A sign test compares whether or not two groups are equally sized and is a non-parametric test (Salkind, 2010). Certain statistical assumptions must be met

before using a sign test (Laerd Statistics, 2021); one continuous dependent variable, one dichotomous independent variable, independent paired observations, and the differences between paired observations are from a continuous distribution. These assumptions were met with the data collected for the study. A  $p$  value of  $< .05$  was considered statistically significant.

Pearson's (1970) chi-squared goodness-of-fit test determined whether a difference in proportions of learning gains appeared. The researcher looked at pairwise tests between race/ethnicity and learning gains. Four assumptions must be met to use the chi-square goodness-of-fit: data must have one categorical data piece, there must be no relationships between the participants, groups must be mutually exclusive, and there must be at least five expected frequencies (participants) in each group. The data met all the assumptions except for the last. Due to the small sample size, the frequencies did not always meet the minimum of five frequencies when looking at each school individually. A  $p$  value of  $< .05$  was considered statistically significant.

## Research Question 2

To what extent is there a difference, if any, between Black, Hispanic, and White learning gains (i.e., increases in reading assessment points on FSA from third to fourth grade) by school?

*Table 4, Research Question 2 Hypothesis*

Null Hypothesis	Alternative Hypothesis
H <sub>0</sub> : There is no difference in Black, Hispanic, and White learning gains by school.	H <sub>1</sub> : There is a difference in Black, Hispanic and White learning gains by school.

To answer Research Question 2, the data were analyzed using multiple statistical tests. First, the log-linear test was completed and then a chi-square goodness-of-fit by school and subsequently by paired test comparisons.

The log-linear test determined if schools moderate the relationship between race/ethnicity and learning gain. In this study, the test is set up as a three-factor design and holds the same assumptions as a chi-square test. Data must have one categorical variable. There must be no relationships between the participants. Groups must be mutually exclusive, and there must be at least five expected frequencies (participants) in each group. A log-linear test is appropriate when determining if a relationship between three or more variables is statically significant (Howell, 2012). A  $p$  value of  $< .05$  was considered statistically significant.

The researcher used a chi-square goodness-of-fit as an appropriate test (Pallant, 2020) to see if there was a difference in proportions of learning gains by each race/ethnicity for each school. The chi-square goodness-of-fit from Research Question 1 was used and reported to maintain continuity and support a greater understanding of the data. A paired test was conducted for those schools that had a statically significant difference in learning gains by race/ethnicity. A paired test provides information about the different groups or sets of scores and identifies statistical significance. (Dunn, 1964). A  $p$  value of  $< .05$  was considered statistically significant.

## CHAPTER 4: RESULTS AND ANALYSIS

### Introduction

This study was designed to (1) to compare Black and Hispanic students' Florida Standards Assessment (FSA) English Language Arts (ELA) scores from third grade to fourth grade at the school level to explore trends in learning gains or decline, and (2) to explore how school environment might impact the academic achievement of Black and Hispanic these outcomes. This chapter presents information in two sections: Research Question 1 and Research Question 2. This chapter presents the results of the analyses used to answer the research questions below.

The research questions for this study were:

1. To what extent is there a relationship between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increased or decreased reading learning from third to fourth grade as measured by the FSA?
2. To what extent is there a difference, if any, between Black, Hispanic, and White learning gains (i.e., increases in reading assessment points on FSA from third to fourth grade) by school?

### Research Question 1

*To what extent is there a relationship between the race/ethnicity of a student deemed ELA proficient in third grade and their subsequent increased or decreased reading learning from third to fourth grade as measured by the FSA?*

The researcher analyzed the data using *learning gains* defined in two different ways. The first was if a student increased or decreased their FSA ELA (i.e., 1-5) level from third to fourth grade. For example, a level increase would be from Level 3 to Level 4. The second learning gain



definition, provided by the State of Florida, uses a determined increase in scale scores. It allows a student to receive a learning gain in the following year by increasing the scale score, even if they remain the same level category. The district-provided learning gain data was categorical and dichotomous based on this state definition and represented in the data with a yes (Y) or no (N) for learning gain.

A Kruskal-Wallis test conducted to compare groups (i.e., White, Black, and Hispanic students) determined if race/ethnicity could affect the learning gains as measured by a change in FSA ELA Level Scores. Scores were statistically significantly different between students categorized by race/ethnicity. The researcher concluded that ethnicity did affect the change in level on FSA,  $\chi^2(2) = 12.783, p = .002$ . Subsequently, the researcher followed Dunn's (1964) procedure for pairwise comparisons and performed for each pair of ethnicities: Black to Hispanic, Black to White, and White to Hispanic. This *post hoc* analysis revealed statistically significant differences between Black-White ( $Mdn = -124.656, p = .006$ ), and Hispanic-White ( $Mdn = -90.981, p = .004$ ), but showed no difference between Black-Hispanic ( $Mdn = -33.677, p = .494$ ). For Research Question 1, the paired test results are shown in Figure 7 below. The x-axis shows the learning gain change variable that shows the percentage (y-axis) of race/ethnicity that made a negative or positive learning gain on the FSA ELA from third to fourth grade. This figure shows that a higher percentage of white students (red bar line) in the graph made a 1.00 learning gain than that of Black (blue bar line) and Hispanic (green bar line), indicating they made a learning gain of one level higher in fourth grade from third grade.

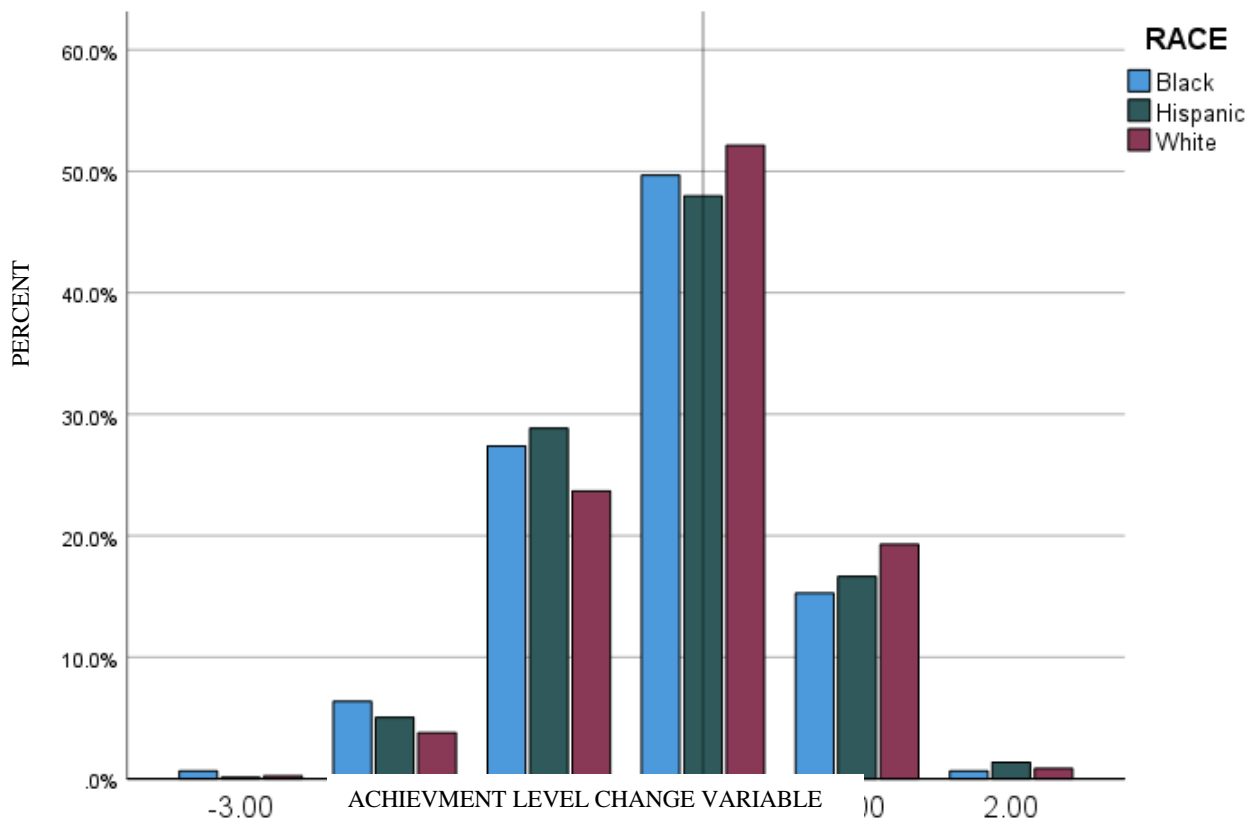


Figure 7 Paired Test Comparisons

Since ethnicity moderated the change in students' ELA FSA Level Scores between third and fourth grade, the next step in the analysis was to determine if students in each race/ethnicity subgroup had the same rate of learning gain changes on the fourth grade ELA FSA. The sign test compares whether or not two groups are equally sized, which is useful for determining if the rate of change is the same for each group of students compared.

In this study, a sign test was used to compare differences between students' ELA FSA scores in different race/ethnicity groups from third to fourth grade (located in Table 5 below). The negative z scores on the test indicated that all groups of students did worse from 2017-2018 to 2018-2019 as measured by learning gains in ELA on the FSA. However, more Black and Hispanic students experienced learning decreases over time compared to White students.

Table 5, Research Question 1 Sign Test Results

Ethnicity	<i>n</i>	$\chi^2$	<i>df</i>	<i>z</i>	<i>p</i>
Black	314	50	1	-4.535	<.05
White	1663	335	1	-4.431	<.05
Hispanic	811	146	1	-6.280	<.05

The second analysis of Research Question 1 used the chi-square goodness-of-fit test. For this analysis, the definition of a learning gain came from Grace County Public Schools' categorical notation of learning gains in their data (i.e., Y or N). According to the state's interpretation of FSA data, a student could remain a Level 3 but gain more points next year and therefore make an ELA learning gain. Research Question 2 also uses this criterion and resulting dichotomous variable to measure and analyze learning gains.

A chi-square goodness-of-fit test was conducted to determine whether the three different race/ethnicity subgroups of students had the same percentage of students making ELA learning gains in fourth grade. The minimum expected frequency was 1. The chi-square goodness-of-fit test indicated that the subgroups of students were not similarly distributed with learning gains,  $\chi^2(2) = 16.508$ ,  $p < .001$ .

Next, the researcher conducted three paired comparisons of students by subgroups: Black to Hispanic, White to Hispanic, and White to Black. There was no statistically significant difference between Black (63.1%) and Hispanic (64.4%) students making a learning gain on the fourth grade ELA FSA,  $\chi^2(1) = .168$ ,  $p = .682$ . The differences between the Hispanic (64.4%) and White (71.3%) students were statistically significant,  $\chi^2(1) = 12.105$ ,  $p = .001$ , as were the differences between Black (63.1%) and White (71.3%) students,  $\chi^2(1) = 8.449$ ,  $p = .004$ . The chi-square goodness-of-fit test comparisons indicate a more significant number of White third grade ELA proficient students made learning gains than Black and Hispanic peers from 2018-2019 on

the fourth grade ELA FSA. For Research Question 1, the chi-square comparisons are shown in Figure 8 below.

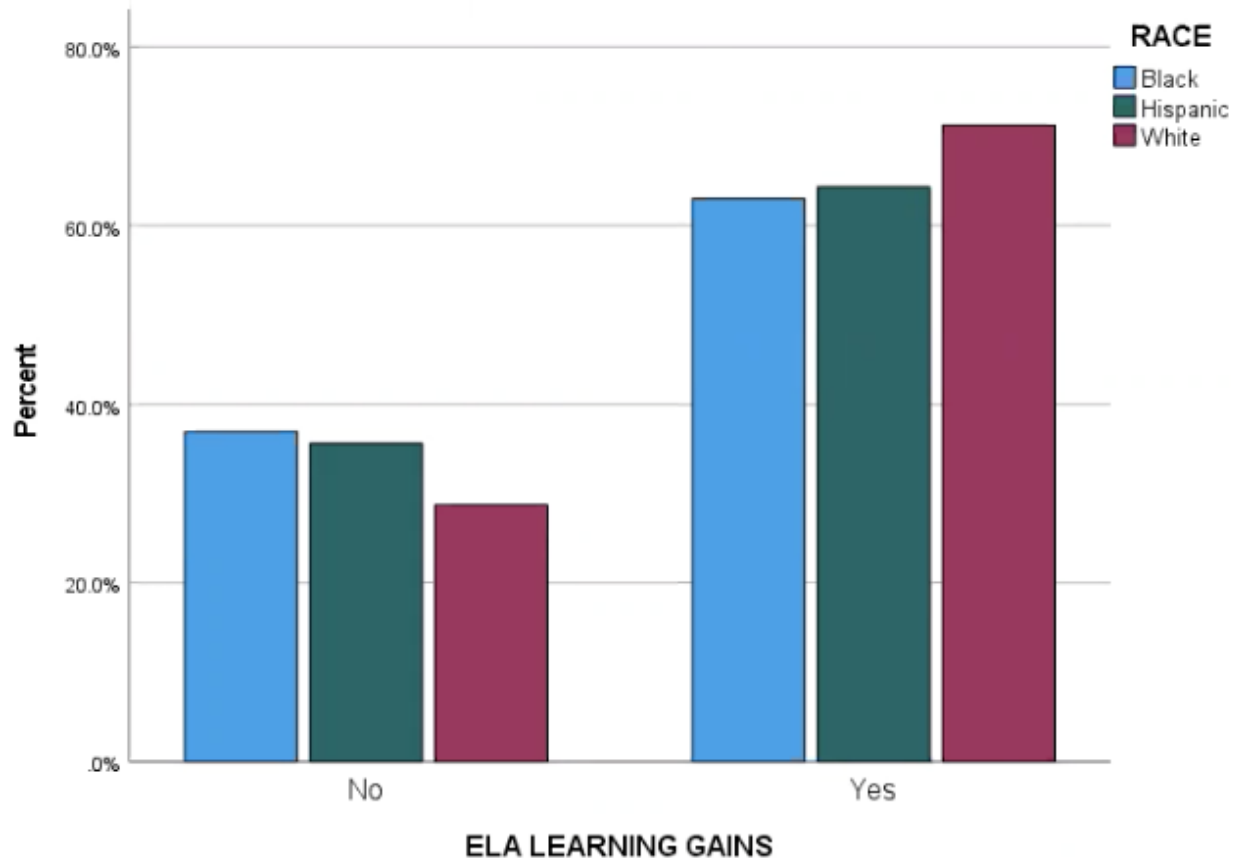


Figure 8, Chi-Square Comparisons

### Research Question 2

*To what extent is there a difference, if any, between Black, Hispanic, and White learning gains (i.e., increases in reading assessment points on FSA from third to fourth grade) by school?*

Research Question 2 continued to explore differences in learning gains by students' race/ethnicity and introduced the school as a moderating variable. A log-linear test evaluated how well a school setting predicted (moderated) student learning gains by subgroup. The researcher coded schools from 1 to 40. Grace County Public Schools determined learning gains.

The three-way effect likelihood ratio test was statistically significant,  $\chi^2(78) = 106.164$ ,  $p = .019$ . This result confirms school moderates the relationship between race/ethnicity and ELA learning gains. Therefore, the relationship between race/ethnicity and learning gains was tested for each school, using a chi-square test for association see Table 6.

Table 6, Research Question 2 Chi-Square Goodness-of-Fit Results

School Number	$\chi^2$	$p$	Paired Test Results
1	7.096	.754	N
<b>2</b>	<b>7.125</b>	<b>.028</b>	<b>Y</b>
3	.328	.849	N
<b>4</b>	<b>5.676</b>	<b>.059</b>	<b>Y</b>
5	4.367	.113	N
6	1.623	.444	N
7	3.016	.221	N
8	2.390	.303	N
9	.557	.757	N
<b>10</b>	<b>8.164</b>	<b>.017</b>	<b>Y</b>
11	3.545	.170	N
12	1.675	.433	N
13	.980	.613	N
14	.067	.967	N
15	.172	.918	N
16	1.631	.442	N
17	.643	.725	N
18	.902	.637	N
19	.574	.751	N
20	2.924	.232	N
21	.927	.629	N
22	2.416	.299	N
23	.049	.976	N
24	.745	.689	N
<b>25</b>	<b>7.096</b>	<b>.029</b>	<b>Y</b>
26	4.834	.089	N
27	.682	.711	N
28	.736	.692	N
29	2.895	.235	N
<b>30</b>	<b>10.861</b>	<b>.004</b>	<b>Y</b>
31	.672	.715	N
32	1.330	.514	N
33	.970	.616	N
34	1.642	.440	N
35	6.891	.032	N
36	.589	.745	N

37	2.006	.367	N
38	2.993	.224	N
39	4.990	.082	N
40	4.713	.095	N

*Note:* Each test had 2 degrees of freedom. The data violated the assumption of expected frequencies as there were fewer than five expected participants in each cell. The small frequencies could have impacted the results. **Bolded** and shaded rows highlight the five schools where there were statistically significant results.

Five of the schools (bolded in the table above) had a statistically significant relationship between race/ethnicity and learning gains. Paired tests were conducted to determine how student learning gains by race/ethnicity subgroup were different at each school.

Of the five schools analyzed in the paired test, three of the schools showed a more significant number of White students making learning gains compared to Black peers: School 2 ( $\chi^2 = 5.299, p = .021$ ), School 25 ( $\chi^2 = 3.818, p = .051$ ), and School 30 ( $\chi^2 = 8.992, p = .003$ ). School 4 had a limited sample size, but the researcher decided to conclude the results *approached* statistical difference between Black and White peers as well ( $\chi^2 = 3.301, p = .069$ ), making it the fourth school reflecting a larger percentage of White students making learning gains than Black students. School 10's data were slightly different because there was no statistical difference between Black and White students' learning gains ( $\chi^2 = .201, p = .654$ ).

Only three schools showed a statistically significant difference between Black and Hispanic students' fourth grade ELA learning gains: School 25 ( $\chi^2 = 5.107, p = .024$ ), School 10 ( $\chi^2 = 3.965, p = .046$ ), and School 30 ( $\chi^2 = 3.80, p = .05$ ). Neither School 25 ( $\chi^2 = 2.42, p = .622$ ) or School 2 ( $\chi^2 = .466, p = .495$ ) had any statistical difference between Black and Hispanic peers' rate of fourth grade ELA learning gains.

Four schools showed a statistically significant difference between White and Hispanic students' ELA learning gains in fourth grade: School 2 ( $\chi^2 = 4.023$   $p = .045$ ), School 10 ( $\chi^2 = 7.26$ ,  $p = .007$ ), School 25 ( $\chi^2 = 3.615$ ,  $p = .057$ ), and School 30 ( $\chi^2 = 4.467$ ,  $p = .035$ ).

Descriptive statistics showing the actual percentages of students *failing* to make fourth grade ELA FSA learning gains by race/ethnicity subgroup and by school are shown in Table 7 below.

*Table 7, Percentage of Students Failing to Make Reading Learning Gains by Race/Ethnicity*

School	Black	Hispanic	White
2	54.5%	42.3%	21.3%
4	22.2%	61.9%	29.4%
10	50%	16.7%	16.7%
25	100%	53.6%	32.9%
30	75%	61.5%	31%

*Note.* Race/Ethnicities are listed in this table alphabetically.

## **CHAPTER 5: DISCUSSION AND CONCLUSIONS**

This chapter interprets the data analysis results provided in Chapter 4. This chapter presents information into six sections: summary of significant findings, implications for practice, limitations, future research, and overall significance.

### **Summary of Major Findings**

The purposes of this study were to (1) to compare Black and Hispanic students' Florida Standards Assessment (FSA) English Language Arts (ELA) scores from third grade to fourth grade at the school level to explore trends in learning gains or decline, and (2) to explore if school environment might impact the academic achievement of Black and Hispanic these outcomes.

Race/ethnicity and school can influence outcomes when analyzing third-grade ELA proficient student's learning gains as fourth-grade students. This research illustrates that although all proficient students struggled to increase Level Scores from third to fourth grade, a greater percentage of Black and Hispanic students did not make the learning gains than White peers.

Academic achievement was measured by performance on the 2017-2018 FSA reading assessments administered in the third grade and subsequently 2018-2019 FSA reading assessments administered in the fourth grade. Multiple statistical tests (Kruskal-Wallis, chi-square goodness-of-fit, sign test, log-linear, and paired tests) were conducted on pre-existing, de-identified data to determine the relationship between race/ethnicity, school, and learning gains. The participants of this study included any student who earned a Level 3, 4, or 5 on the ELA FSA assessment in third grade in 2017-2018 and took the ELA FSA in fourth grade in 2018-2019 at the same school.



Overall, the findings showed the majority of the subgroups of proficient students, no matter their race/ethnicity, struggled to make learning gains from third to fourth grade; however, a higher percentage of Black and Hispanic students did not make the learning gains as compared to their White peers.

### Implications for Practice

The purpose of this study was to explore the relationship between race/ethnicity and fourth grade ELA FSA learning gains for third grade ELA proficient students. The results confirmed that variations and some statistical significance among results when compared by race and ethnicity could influence learning gains, stagnation, or decline from third to fourth grade on the FSA ELA. These results support the school district's efforts in focusing more on Black and Hispanic third grade ELA proficient students' gaps as they move into fourth and later fifth grades.

Another goal of this study was to explore if a school might affect the relationship between race/ethnicity and learning gains. The results showed schools could play a factor in the percentage of students making learning gains for third to fourth-grade students on the FSA ELA by subgroup. These results support further investigation in the district to parse out which unique factors or combinations of factors best support students' learning gains, particularly for minoritized students.

The researcher's experience within the school district that this data was obtained led to research question 2. The results from this study did say that schools can play a factor however, it is not assumed that other ways to evaluate a school match these results. Different schools in the district have a perception of being excellent schools or not usually in reference to school grades. It

would be assumed that a school that received a C as a school grade may have discrepancies with their different subgroups.

### Limitations

With any research, there are limitations to this study to address. The most significant limitation was the data used in the study. Schools did not administer the FSA during the 2019-2020 school year due to the impact on schooling from the COVID-19 pandemic beginning in March 2020, so the data used for this study included third graders from 2017-2018 and fourth-graders from 2018-2019. This data were the most current data that is available to be analyzed. In addition, data was provided by the department and limited in what could have made a more successful study. Due to COVID, schools were not allowing outsiders into classrooms. This directive limited the research and made the sole focus on available prior data. This study focused on one group of students learning gains. It would benefit the district to investigate if these results are found over multiple years. Also, this study reflects data in a large suburban school district, and the results have direct implications for this specific school district. As such, individual counties and the state will have to do their investigations and analyses to determine similar results.

### Implications for Future Research

This study highlights an issue within a specific school district. The results from the analysis indicate a statistically significant difference in the amount of third-grade ELA proficient Black and Hispanic students making learning gains in fourth grade compared to White peers in this school district. Future researchers should design studies investigating schools that have discrepancies between ethnicities and those schools that do not have discrepancies to identify which specific factors or combination of factors best support students' learning gains. It is

essential to find out why and how other schools can increase the number of students in all race/ethnicity subgroups making learning gains. Data of this sort can inform intervention efforts, professional learning models, and fiscal or policy decisions. A look into all the schools within the county would benefit the district. Specifically looking at the way each school addresses professional development, school culture and implementation of curriculum.

This study provides a model analysis for the district, allowing for replication annually. The district should continue to study each year's disaggregated student progression data from third to fourth grade (and beyond) and track learning gains for third-grade proficient students by subgroup, including race/ethnicity. In addition, the county could continue to follow this cohort of students to see if learning gains continue from fourth to fifth grade and on as this pattern of findings would also be informative and have implications for practice. Using the methods provided, the district can also go back and use FSA data from earlier years and compare the results. Specifically focusing on the schools to determine if there is a trend within the schools that do or do not have discrepancies.

Finally, as this study focuses on just one district in Florida, research into other districts (and states) would also be beneficial. If the results are similar across school districts, more information could help reach all students. These insights will lead to more research-based innovation to help change how schools reach all students.

#### Overall Significance of the Study

Prior research has shown a discrepancy in proficient students' learning gains over time (Card & Rothstein, 2007; Goosby & Cheadle, 2009; Ladson-Billings, 1995; Plucker et al., 2010; Rojas-LeBouef & Slate, 2011). The findings from this dissertation study also conclude that there is a difference in Black and Hispanic students' learning gains from third to fourth grade on FSA

ELA tests compared to their White peers. Researchers know the Black, and Hispanic academic achievement gap exists and is still predictable and persistent. This dissertation found promising data within schools within the county that did have learning gain parity between Black and Hispanic students compared to White students. With the identification of these schools, more extensive research can benefit districts to find how they closed the gap and how other schools can replicate these approaches until the gap is no longer a gap at all.

## **APPENDIX A UCF NON HUMAN IRB**



**FORM: Request for Not Human Subjects  
Research (NHSR) Determination**

NUMBER	FORM VERSION DATE	PAGE
HRP-250	5/1/2020	1 of 3

Instructions: This form is used to establish whether your research can be determined not to be "Human Research" or your project can be determined "Not Research" and will not require IRB Review according to the federal regulations.

To request a determination of NHSR, please complete the study application in the IRB system and upload this form in the section "Attach the protocol" and submit the study application. *The IRB Office will then make the final determination on whether the activity meets the definition of Human Subjects Research under Health and Human Services regulations (HHS) 45 CFR 46.102 or (FDA) 21 CFR 56.103.*

<b>Investigator:</b>	Christina Aldrich
<b>Study Title:</b>	Exploring Conceptual Factors in Black and Hispanic Proficient Students' in English Language Arts
<b>Co-Investigators(s) (if Applicable):</b>	
<b>Faculty Advisor (if Applicable):</b>	Dr. Martha Lue Stewart
<b>Section 1 – Justification of Not Human Subjects Research/Not Research Please Complete Applicable Section A and Section B</b>	
<b>A. Does this study involve Human Subjects as defined by DHHS or FDA? See HRP-310 Worksheet-Human Research Determination.</b>	
<input type="checkbox"/>	The investigator conducting the study is gathering data about living individuals
<input type="checkbox"/>	Will the investigator gather those data through either of the following mechanisms? <input type="checkbox"/> Physical procedures or manipulations (this can include surveys, interviews, focus groups, prospective collection of biospecimens) of those individuals or their environment for research purposes ("intervention"). <input type="checkbox"/> Communication or interpersonal contact with the individuals (this can include contact via phone, email, social media etc.) ("interaction").
<input checked="" type="checkbox"/>	Will this study involve the use of existing data (examples include data sets, previously collected biospecimens. For the purpose of this form, "existing" means the data has already been collected at the time of this studies proposal). <b>(Check all that apply)</b> <input checked="" type="checkbox"/> UCF researcher(s) or external study team members receive de-identified data or specimens. <input checked="" type="checkbox"/> No one on the research team has access to identifiable information. <input type="checkbox"/> Provide a separate list* of the data points, variables, and/or information that will be collected and/or analyzed (i.e. data abstraction form). <input checked="" type="checkbox"/> Specify the data source and who de-identifies the data: <b>Florida Standards Assessment Scores, Assessment and Accountability Department in Seminole County Public Schools will be de-identifying the data before providing it to the researcher.</b> <input type="checkbox"/> Publicly available data. Specify source: <span style="background-color: #cccccc; padding: 0 20px;"></span>  <small>* Data access is limited to the items included in the list. The IRB must be notified of any additions to the list. The list will be reviewed to confirm that no private identifiable information (i.e. 18 PHI Identifiers) will be obtained. If the list includes any private identifiable information, the activity involves human subjects.</small>
<input type="checkbox"/>	Does the activity involve any of the following? <b>(Check all that apply)</b> <input type="checkbox"/> In the United States: The use of a drug <sup>1</sup> in one or more persons other than use of an approved drug in the course of medical practice <sup>1</sup> . <input type="checkbox"/> In the United States: The use of a device <sup>2</sup> in one or more persons that evaluates the safety or effectiveness of that device.



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**FORM: Request for Not Human Subjects  
Research (NHSR) Determination**

NUMBER	FORM VERSION DATE	PAGE
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<input type="checkbox"/>	Data regarding subjects or control subjects submitted to or held for inspection by FDA <sup>1</sup> .
<input type="checkbox"/>	Data regarding the use of a device on human specimens (identified or unidentified) submitted to or held for inspection by FDA <sup>1</sup> .
<b>B. Please indicate which of the following categories you think most clearly represents the study, discuss the intent of the study, and how you plan to disseminate the study results.</b>	
<input type="checkbox"/>	<b>Case Study</b> <input type="checkbox"/> Describe: _____
<input type="checkbox"/>	<b>Quality Improvement</b> <input type="checkbox"/> Describe: _____
<input type="checkbox"/>	<b>Program Evaluation</b> <input type="checkbox"/> Describe: _____
<input checked="" type="checkbox"/>	<b>Retrospective Data Analysis</b> <input checked="" type="checkbox"/> Describe: For this dissertation in practice, de-identified data from the Florida Standards Assessment will be provided to the researcher from Seminole County Public Schools. The researcher will be investigating learning gains from the 3 <sup>rd</sup> grade to the 4 <sup>th</sup> grade on the FSA, for English Language Arts. The scores will be used to run two separate statistical tests, ANOVA and a Spearman's R test. These tests will be used to analyze the schools FSA data. The ANOVA will be used to compare the school level learning gains among all 37 elementary schools in the county. The Spearman's r will be used to investigate a correlation between the race and levels.
<input type="checkbox"/>	<b>Other</b> <input type="checkbox"/> Describe: _____
<b>Section 2 – Certification and Investigator Sign-Off</b>	
Decisions regarding eligibility for a Not Human Subjects Research determination will be made on a case-by-case basis by the IRB Office. The IRB Office may request additional documentation, including the full protocol (HRP-503 – Protocol Template), in order to make the appropriate determination.	
<u>By entering your initials below you certify that the information you have provided is complete and accurate. In addition, you acknowledge that any intended/proposed modifications to this project must first be submitted to the IRB as certain modifications change the review category.</u>	
<b>Investigator Initials</b>	<b>Date</b>
CA	September 7, 2020

<sup>1</sup> The term "drug" means:

- (A) articles recognized in the official United States Pharmacopoeia, official Homoeopathic Pharmacopoeia of the United States, or official National Formulary, or any supplement to any of them; and
- (B) articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and
- (C) articles (other than food and dietary supplements) intended to affect the structure or any function of the body of man or other animals; and
- (D) articles intended for use as a component of any article specified in clause (A), (B), or (C).



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**FORM: Request for Not Human Subjects  
Research (NHSR) Determination**

NUMBER	FORM VERSION DATE	PAGE
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<sup>ii</sup> “Other than the use of an approved drug in the course of medical practice” refers to a practitioner providing an approved drug to a patient because the practitioner believes the drug to be in the best interests of the patient. If the protocol specifies the use of the drug, it is not in the course of medical practice unless use of the drug is completely up to the discretion of the practitioner.

<sup>iii</sup> The term “device” means an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including any component, part, or accessory, which is:

- (1) recognized in the official National Formulary, or the United States Pharmacopeia, or any supplement to them,
- (2) intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals, or
- (3) intended to affect the structure or any function of the body of man or other animals, and which does not achieve its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of its primary intended purposes.

<sup>iv</sup> This is specific to submissions that are part of an application for a research or marketing permit. However, unless otherwise indicated, assume all submissions to FDA meet this requirement.

<sup>v</sup> This is specific to submissions that are part of an application for a research or marketing permit. However, unless otherwise indicated, assume all submissions to FDA meet this requirement.



## **APPENDIX B UCF IRB APPROVAL**



UNIVERSITY OF CENTRAL FLORIDA

Institutional Review Board  
FWA00000351  
IRB00001138, IRB00012110  
Office of Research  
12201 Research Parkway  
Orlando, FL 32826-3246

### NOT HUMAN RESEARCH DETERMINATION

September 21, 2020

Dear [Christina Aldrich](#):

On 9/21/2020, the IRB reviewed the following protocol:

Type of Review:	Initial Study
Title of Study:	Exploring Conceptual Factors in Black and Hispanic Proficient Students' in English Language Arts
Investigator:	<a href="#">Christina Aldrich</a>
IRB ID:	STUDY00002216
Funding:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"><li>• HRP-251- FORM - Faculty Advisor Scientific-Scholarly Review fillable form.9.10.2020.pdf, Category: Faculty Research Approval;</li><li>• Christina Aldrich , Category: IRB Protocol;</li><li>• Data Abstraction Form.docx, Category: Other;</li></ul>

The IRB determined that the proposed activity is not research involving human subjects as defined by DHHS and FDA regulations.

IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities are research involving human in which the organization is engaged, please submit a new request to the IRB for a determination. You can create a modification by clicking **Create Modification / CR** within the study.

If you have any questions, please contact the UCF IRB at 407-823-2901 or [irb@ucf.edu](mailto:irb@ucf.edu). Please include your project title and IRB number in all correspondence with this office.

Sincerely,



UNIVERSITY OF CENTRAL FLORIDA

Institutional Review Board  
FWA00000351  
IRB00001138, IRB00012110  
Office of Research  
12201 Research Parkway  
Orlando, FL 32826-3246

A handwritten signature in black ink, appearing to read "Racine Jacques", is positioned above the printed name.

Racine Jacques, Ph.D.  
Designated Reviewer

## **APPENDIX C RESEARCH PERMISSION**



WALT GRIFFIN  
Superintendent

**Educational Support Center**  
400 E. Lake Mary Boulevard  
Sanford, Florida 32773-7127  
Phone: (407) 320-0000  
Fax: (407) 320-0281

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KRISTINE KRAUS  
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September 11, 2020

Christina Aldrich  
1201 Oak Springs Pl.  
Lake Mary, FL 32746

Dear Ms. Aldrich,

I am in receipt of the proposal and supplemental information that you submitted for permission to conduct research in the Seminole County Public Schools. You are granted permission to conduct the study described herein, *Exploring Conceptual Factors for Black and Hispanic Students' Proficient in English Language Arts*.

Your first order of business is to contact Ms. Kelly Thompson, Director of Research and Accountability, to begin the process for receipt of the requested data. In order to receive the deidentified files, one of our data analysts will have to prepare your files outside of their contracted time at a cost of \$50/hour. Ms. Thompson will let you know the analyst's calendar availability and amount of time anticipated for the work.

We would appreciate you sending a copy of your completed study to this office. Best of luck with your study!

Sincerely,

*Anna-Marie Cote*

Anna-Marie Cote, Ed.D.  
Deputy Superintendent, Instructional Excellence and Equity

cc. Dr. Marian Cummings, Executive Director, Elementary Schools  
Mr. Mike Pfeiffer, Principal, Hamilton Elementary School  
Ms. Kelly Thompson, Director, Research and Accountability

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